

Draft Supplemental Environmental Impact Report

SCH# 2004111015

Volume 1

Chapters 1 through 10

**Shafter/Wasco Composting and Waste Diversion Project
By Kern County Public Works**

General Plan Amendment No. 10, Map 78
Modification to Conditional Use Permit No. 1, Map 78
Solid Waste Facility Permit Revision

Lead Agency:



Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

February 2021

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
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Web Address: <http://kernplanning.com/>



**PLANNING AND NATURAL
RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

February 17, 2021

File: GPA 10, Map 78 and CUP 1 MOD, Map 78;
and Solid Waste Facility Permit Revision

ADDRESSEE LIST (See Distribution List)

Re: Draft Supplemental Environmental Impact Report for the Shafter/Wasco Composting and Waste Diversion Project by Kern County Public Works (PP20404)

Dear Interested Party:

Kern County has prepared a Draft Supplemental Environmental Impact Report (Draft SEIR) for the above-noted land use applications to allow for compliance measures due to CalRecycle implemented regulations. As a result, the Kern County Public Works Department has evaluated existing solid waste management services provided and determined additional programs will require implementation to meet State and CalRecycle mandates. Additional programs to be implemented at the Shafter-Wasco RSLF include a 100,000 tons per year (TPY) composting operation and a self-haul recycling operation; both will require additional hours for ancillary site activities.

It should be noted that the Public Works Department is adjusting the management, processing, and handling method associated with the organic materials coming into the Shafter-Wasco RSLF with no increase in permitted maximum daily tonnage and permitted traffic (volume or flow pattern), nor permitted capacity. The Public Works Department is proposing to shift the organic material that is currently being disposed of in the landfill to the proposed compost facility and self-haul recycling operation for recovery, handling, processing, or composting. The proposed project constitutes a change to the previously analyzed Shafter-Wasco Recycling and Sanitary Landfill (RSLF) operations that will require a revision to the 2009 previously certified EIR because of a potential for new significant environmental effects or a substantial increase in the severity of previously identified effects. Therefore, as allowed for within CEQA Guidelines Section 15163, a Supplemental EIR will be prepared for the proposed project. As provided for in CEQA Guidelines, a Supplemental EIR need only address those EIR topics that require, for the reason listed above, revisions to the original EIR to make the previous EIR adequate for the project as revised. Mitigation measures, as applicable, from the 2009 previously certified EIR will be incorporated into the proposed project.

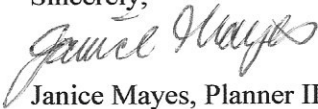
The project site is located at 17621 Scofield Avenue, Shafter, CA 93263, one mile north of Lerdo Highway, in an unincorporated area of Kern County on Assessor's Parcel Numbers (APNs) 088-100-38, 088-100-40, and 088-100-08. The site is located in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M).

The proposed project requires one General Plan Amendment (GPA) to the Land Use Element, and modification changes to one Conditional Use Permits (CUP) and Solid Waste Facility Permit Revision. The Kern County Planning and Natural Resources Department, as Lead Agency, has determined that preparation of a Supplemental Environmental Impact Report would be appropriate for the referenced project. Enclosed is a copy of the Draft SEIR.

If we have not received a reply from you by **April 5, 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) 862-8793 or via email at majesj@kerncounty.com.

Sincerely,

A handwritten signature in cursive script, appearing to read "Janice Mayes".

Janice Mayes, Planner III
Advanced Planning Division

EIR 04-19
PWD Shafter/Wasco Composting
SEIR 1/2021
Agency Labels

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

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

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

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

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

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

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 Land Conservation
801 "K" Street, MS 18-01
Sacramento, CA 95814

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

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

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

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

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

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

CalRecycle
Dept of Resources, Recycling, and
Recovery
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
Cary Wright, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Shafter Branch

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

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

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

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

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

Semi Tropic Water Storage Dist
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Wasco, CA 93280

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

Shafter Rec & Parks Dist
700 East Tulare Avenue
Shafter, CA 93263

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

Kern Mosquito Abatement Dist
4705 Allen Road
Bakersfield, CA 93314

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

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

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

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

California Farm Bureau
2300 River Plaza Drive, NRED
Sacramento, CA 95833

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

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

Sierra Club/Kern Kaweah Chapter
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Bakersfield, CA 93385

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

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

Chumash Council of Bakersfield
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Bakersfield, CA 93301-2441

David Laughing Horse Robinson
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Bakersfield, CA 93390

Kern Valley Indian Council
Attn: Robert Robinson, Chairperson
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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

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

State Dept of Public Health
Drinking Water Field Ops
265 W Bullard Avenue, Ste 101
Fresno, CA 93704-1755

**DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
NOTICE OF AVAILABILITY FOR PUBLIC REVIEW**

This is to advise that the Kern County Planning and Natural Resources Department has prepared a Supplemental Environmental Impact Report (SEIR) for the project identified below. As mandated by State law, the minimum public review period for this document is 45 days. The document and documents referenced in the Draft SEIR are available for review at the Planning and Natural Resources Department, 2700 "M" Street, Suite 100, Bakersfield, CA 93301 or on the Departmental website (<https://kernplanning.com/planning/environmental-documents/>).

A public hearing has been scheduled with the Kern County Planning Commission to receive comments on the document on: **May 27, 2021** at 7:00 p.m. or soon thereafter, Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California.

The comment period for this document closes on **April 5, 2021**. Testimony at future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing by 5:00 p.m. the day the comment period closes.

Project Title: Shafter-Wasco Composting and Waste Diversion Project by Kern County Public Works Department. Modification to CUP No. 1, Map 78; General Plan Amendment No. 10, Map 78 (PP20404).

Project Location: The project site is located at 17621 Scofield Avenue, Shafter, CA 93263, one mile north of Lerdo Highway, in an unincorporated area of Kern County on Assessor's Parcel Numbers (APNs) 088-100-38, 088-100-40, and 088-100-08. The site is located in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M).

Project Description: The project includes a request for land use entitlements necessary to facilitate the operation of a covered aerated static pile composting facility and expansion of self-haul transfer and processing activities within the current landfill permitted facility boundary. The project includes the increase to the permitted facility boundary and hours for the receipt of waste and facility operating hours.

The major components of the project are:

(A) General Plan Amendment and Appendix E Map Amendment from 3.4.1 (Solid Waste Disposal Facility Buffer) to 3.7 (Other Waste Facilities - Nonhazardous/Nondisposal) for 20 acres for a compost facility and from 8.1 (Intensive Agriculture) to 3.4.1 for 50.21 acres for landfill buffer;

(B) Modify existing CUP No. 1, Map 78 to include additional buffer lands and increase permitted facility boundary from 357.48 acres to 407.69 acres to include 50.21 acres of landfill buffer property and designate 20 acres for the compost facility;

(C) Revise existing Solid Waste Facility Permit to increase permitted facility boundary to 407.69 acres, increase composting design capacity from zero tons per year to 100,000 tons per year; and increase hours for the receipt of waste and facility operating hours;

(D) Apply for Waste Discharge Requirements for Composting Operations to construct and operate a Tier II designed compost facility; and

(E) Apply for Authority to Construct for construction and operation of a 100,000 tons per year compost facility.

Anticipated Significant Impacts on Environment: Air Quality

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

For further information, please contact: Janice Mayes, Planner 3 ((661) 862-8793) or email mayesj@kerncounty.com

LORELEI OVIATT, AICP, Director
Planning and Natural Resources Department

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

BAKERSFIELD CALIFORNIAN

JKM:sc (02/10/21)

I:\Planning\WORKGRPS\WP\MISC\eir2020jkm.noa_JKM_2.17.2021.doc

cc: County Clerk (2) (with fee)
Environmental Status Board
Sierra Club/Kern Kaweah Chapter
LiUNA
Supervisory District No. 4

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

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Map 78, GPA10, CUP1 MOD, SEIR 04-
19.docxMap 78, GPA 10, CUP 1,
SEIR 1/2021
cp06/02/20

088 100 41 00 8
BALLENLEE BROTHERS FARMS
17679 JUMPER AV
SHAFTER CA 93263

088 100 19 00 5
BALLENLEE MARK P & LYNDIA
17679 JUMPER AV
SHAFTER CA 93263

088 030 16 00 6
BLOEMER ESTATE LP
4948 ENGLE RD
BAKERSFIELD CA 93313-9707

088 100 28 00 1
CALIFORNIA RESOURCES
PETROLEUM CORPORATION
27200 TOURNEY RD STE 315
VALENCIA CA 91355-4990

088 130 22 00 2
CALIFORNIA RESOURCES
PETROLEUM CORPORATION
PO BOX 22830
BAKERSFIELD CA 93390-2830

088 090 10 00 6
CAUZZA ALMONDS L P
1600 CORN CAMP RD
BUTTONWILLOW CA 93206

088 100 08 01 2 site
COUNTY OF KERN
1115 TRUXTUN AV FLR 3
BAKERSFIELD CA 93301

088 100 38 00 0 **DUP**
COUNTY OF KERN
*
*

088 030 17 01 8
GHILARDUCCI SAMMY & DIANE
FAMILY TRUST
17138 PANADERO CT
BAKERSFIELD CA 93314-8696

088 130 04 00 0
KING & GARDINER FARMS LLC
PO BOX 1200
WASCO CA 93280-8100

088 090 01 01 9
PIANTAGIONE BLOEMHOF DI
MANDORLE
PO BOX 4140
SAN LUIS OBISPO CA 93403-4140

088 040 03 02 9
REGENTS OF THE UNIVERSITY CA
2199 ADDISON ST
BERKELEY CA 94704-1153

088 020 18 01 8
AJL ENTERPRISES
PO BOX 8002
WASCO CA 93280-8056

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 # 2004111015

Project Title: Shafter/Wasco Composting and Waste Diversion Project

Lead Agency: Kern County Planning Department

Contact Person: Janice Mayes

Mailing Address: 2700 "M" Street Suite 100

Phone: (661) 862-8793

City: Bakersfield

Zip: 93301-2323

County: Kern

Project Location: County: Kern

City/Nearest Community: Shafter/Wasco

Cross Streets: Lerdo Hwy/Schofield Avenue

Zip Code: 93263

Lat. / Long.: 35° 30' 38" N / -119° 24' 39" W

Total Acres: 407.69

Assessor's Parcel No.: 088-100-08, 38, 40

Section: 8

Twp.: 28S

Range: 24E

Base: MDB&M

Within 2 Miles: State Hwy #: N/A

Waterways: N/A

Airports: N/A

Railways: N/A

Schools: N/A

Document Type:

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

☐ Draft EIR
☒ Supplement/Subsequent EIR
(Prior SCH No.) 2004111015
Other _____

NEPA: ☐ NOI
☐ EA
☐ Draft EIS
☐ FONSI

Other: ☐ Joint Document
☐ Final Document
☐ Other _____

Local Action Type:

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

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

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

☐ Annexation
☐ Redevelopment
☐ Coastal Permit
☒ Other Permit Renewal

Development Type:

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

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☒ Waste Treatment: Type Solid Waste/Composting MGD _____
☐ Hazardous Waste: Type _____
☒ Other: Waste Diversion

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Other _____
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities

☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation

☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☐ Wetland/Riparian
☒ Wildfire/Tribal/Energy
☐ Growth Inducing
☒ Land Use
☒ Cumulative Effects

Present Land Use/Zoning/General Plan Designation: GP: 3.4 (Solid Waste Disposal Facility); 3.4-1 Solid Waste Disposal Facility Buffer; 8.1 (Intensive Agriculture); Zoning: A (Exclusive Agriculture)

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

(A) General Plan Amendment and Appendix E Map Amendment from 3.4.1 to 3.7 for 20 acres for a compost facility and from 8.1 to 3.4.1 for 50.21 acres for landfill buffer; (B) Modify existing CUP No. 1, Map 78 to include additional buffer lands and increase permitted facility boundary from 357.48 acres to 407.69 acres to include 50.21 acres of landfill buffer property and designate 20 acres for the compost facility; (C) Revise existing Solid Waste Facility Permit to increase permitted facility boundary to 407.69 acres, increase composting design capacity from zero tons per year to 100,000 tons per year; and increase hours for the receipt of waste and facility operating hours; (D) Apply for Waste Discharge Requirements for Composting Operations to construct and operate a Tier II designed compost facility; (E) Apply for Authority to Construct for construction and operation of a 100,000 tons per year compost facility.

Reviewing Agencies Checklist

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

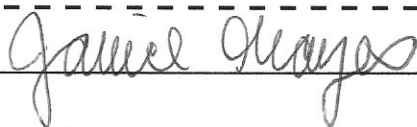
<input checked="" type="checkbox"/> S Air Resources Board	<input type="checkbox"/> Office of Emergency Services
<input type="checkbox"/> Boating & Waterways, Department of	<input type="checkbox"/> Office of Historic Preservation
<input checked="" type="checkbox"/> S California Highway Patrol	<input type="checkbox"/>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

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

Starting Date February 17, 2021 Ending Date April 5, 2021

Lead Agency (Complete if applicable):

Consulting Firm: <u>Kern County Planning & Natural Resources Department</u>	Applicant: <u>Kern County Public Works Department, Dave Lee</u>
Address: <u>2700 "M" Street, Suite 100</u>	Address: <u>2700 "M" Street, Suite 450</u>
City/State/Zip: <u>Bakersfield CA 93301</u>	City/State/Zip: <u>Bakersfield, CA 93301</u>
Contact: <u>Janice Mayes</u>	Phone: <u>661-862-8765</u>
Phone: <u>661 862-8793</u>	

Signature of Lead Agency Representative:  Date: 02/17/2021

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

Draft Supplemental Environmental Impact Report

SCH# 2004111015

Volume 1

Chapters 1 through 10

**Shafter/Wasco Composting and Waste Diversion Project
By Kern County Public Works**

General Plan Amendment No. 10, Map 78
Modification to Conditional Use Permit No. 1, Map 78
Solid Waste Facility Permit Revision

Lead Agency:



Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

February 2021

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- D: Air Quality Impact Assessment, (SCS, 2021)
- E: Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, & 2020, (SCS)
- F: Energy Conservation Study for Composting and Waste Diversion Project (SCS)
- G: Geotechnical Engineering Investigation for the Proposed Shafter-Wasco Compost Facility, 2019, (Krazan & Associates, Inc.)
- H: Archeological Survey of Approximately 70 acres of Land for the Proposed Composting Facility (Stantec Consulting)
- I: Tribal Consultation

Acronyms

AB	Assembly Bill
AEA	Additional Environmental Analysis
AERMOD	Atmospheric Dispersion Modeling System
AF	Acre-Feet
AFY	Acre-Feet Per Year
ALUCP	Kern County Airport Land Use Compatibility Plan
AMSL	Above Mean Sea Level
APCD	Air Pollution Control District
APN	Assessor's Parcel Number
AQIA	Air Quality Impact Assessment
AQMP	Air Quality Management Plan
ASCE	American Society of Civil Engineers
ATC	Authority to Construct
AWMA	Air & Waste Management Association
BAAQMD	Bay Area Air Quality Management District
BAU	Business-As-Usual
BGS	Below Ground Surface
BMP	Best Management Practices
BOS	Board of Supervisors
BPS	Best Performance Standard
BTU	British Thermal Unit
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL ARP	California Accidental Release Prevention Program
CAL EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CAL GEM	California Department of Conservation, Geologic Energy Management Division
CAL TRANS	California Department of Transportation
CalEEMod	California Emission Estimator Model
CAP	Criteria Air Pollutants
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASP	Covered Aerated Static Pile
CAT	Climate Action Team
CBC	California Building Code

CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDFW	California Department of Fish & Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CHL	California Historical Landmarks
CHP	California Highway Patrol
CIMIS	California Irrigation Management Information System
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
COPC	Chemicals of Potential Concern
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Federal Clean Water Act
DOC	Department of Conservation
DOGGR	California Division of Oil and Gas and Geothermal Resources
DPM	Diesel Particulate Matter
DPR	Department of Pesticide Regulation
DTSC	California Department of Toxic Substances
DWR	California Department of Water Resources
EIA	United States Energy Information Administration
EIR	Environmental Impact Report
EMFAC	Emission Factor Database
EO	Executive Order
EPA	Environmental Protection Agency
EPP	Environmentally Preferable Purchasing
EPR	Extended Producer Responsibility
ERC	Emission Reduction Credits
ESA	Federal Endangered Species Act
ETAAC	Economic and Technology Advancement Advisory Committee
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency

FHSZ	Fire Hazards Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
FPPA	Farmland Protection Policy Act
FRAP	Fire and Resource Assessment Program
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GPA	General Plan Amendment
GPD	Gallons Per Day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWh	Gigawatt Hours
GWP	Global Warming Potential
H ₂ O	Water Vapor
H ₂ S	Hydrogen Sulfide
HAP	Hazardous Air Pollutants
HCP	Habitat Conservation Plan
HMBP	Hazardous Materials Business Plan
HRA	Health Risk Assessment
HSR	California High-Speed Rail Authority
IBC	International Building Code
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IWMP	Integrated Waste Management Plan
IWSA	Intermittent Water Service Agreement
JTD	Joint Technical Document
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCOG	Kern Council of Governments
KCPH	Kern County Public Health Service Department
KCPWD	Kern County Public Works Department
KCWMD	Kern County Waste Management Department
KCZO	Kern County Zoning Ordinance
KEDC	Kern Economic Development Corporation
KGA	Kern Groundwater Authority
LCFS	Low-Carbon Fuel Standard

LEA	Local Enforcement Agency
LFG	Landfill Gas
LMR	Landfill Methane Rule
LOS	Level of Service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MDB&M	Mount Diablo Base & Meridian
MM	Mitigation Measure
MMMP	Mitigation Measures and Monitoring Program
MMTCO ₂ E	Million Metric Tons CO ₂ e
MND	Mitigated Negative Declaration
MRP	Monitoring and Reporting Program
MRZ	Mineral Resource Zone
MSW	Municipal Solid Waste
MWh	Megawatt Hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NDFE	Non-Disposal Facility Element
NEHRP	National Earthquake Hazards Reduction Program
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NH ₃	Ammonia
NHTSA	National Highway Traffic Safety Administration
NMOC	Non-Methane Organic Compounds
NO ₂	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOT	Notice of Termination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSPS	New Source Performance Standards
O ₃	Ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OES	California Office of Emergency Services
OIMP	Odor Impact Minimization Plan
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PERP	Portable Equipment Registration Program

PG&E	Pacific Gas & Electric
PHI	California Points of Historical Interest
PM	Particulate Matter
PPM	Parts Per Million
PRC	Public Resources Code
PTO	Permit to Operate
RCRA	Resource Conservation and Recovery Act
RCSI	Report of Compost Site Information
RME	Reasonable Maximum Exposure
ROG	Reactive Organic Gases
ROWD	Report of Waste Discharge
RPS	Renewable Portfolio Standard
RSLF	Recycling & Sanitary Landfill
RTP	Regional Transportation Plan
RWQCB	California Regional Water Quality Control Board, Central Valley
SB	Senate Bill
SCH	State Clearing House
SCS	Sustainable Communities Strategy
SEIR	Supplemental Environmental Impact Report
SEM	Surface Emissions Monitoring
SGMA	Sustainable Groundwater Management Act
SIL	Significant Impact Levels
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SJVTAP	San Joaquin Valley Technology Advancement Program
SLCP	Short-Lived Climate Pollutants
SLF	Sacred Lands File
SMBMI	San Manuel Band of Mission Indians
SO ₂	Sulfur Dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SRA	State Responsibility Area
SRRE	Source Reduction and Recycling Element
SWFP	Solid Waste Facility Permit
SWICS	Solid Waste Industry for Climate Solutions
SWIS	Solid Waste Information System
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants

TPD	Tons Per Day
TPY	Tons Per Year
UNFCCC	United Nations Framework Convention on Climate Change
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VERA	Voluntary Emissions Reduction Agreement
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VPD	Vehicles Per Day
WARM	Waste Reduction Model
WDR	Waste Discharge Requirements
WRCC	Western Regional Climate Center
ZEV	Zero-Emissions Vehicle

1.1 Introduction

The Shafter-Wasco Compost & Waste Diversion Project (project) proposes to operate a compost facility and enhanced self-haul diversion operations, increase the permitted facility boundary of the landfill, and increase the hours for the receipt of refuse/waste and facility operating hours. Existing landfill operations and diversion activities have been in operation since 1972 and 1997, respectively, and recently being permitted via a conditional use permit (CUP) in September 2009. The proposed project site is located on the existing Shafter-Wasco Recycling & Sanitary Landfill, which is operated by the Kern County Public Works Department and owned by the County of Kern.

The Kern County Planning and Natural Resources Department, as Lead Agency, has determined that a Supplemental Environmental Impact Report (SEIR) must be prepared for the proposed project. The *Shafter-Wasco Sanitary Landfill Permit Revision Project Environmental Impact Report* (SCH #2004111015) was certified by the Kern County Board of Supervisors on September 29, 2009. This SEIR has been prepared to identify and evaluate potential environmental impacts associated with implementation of the proposed project.

Proposed modifications include: (1) construction and operation of a covered aerated static pile forced aeration composting system with best available control technology in the existing diversion area; (2) composting approved feedstocks consistent with CalRecycle definitions; (3) enhancement to existing diversion activities by providing additional self-haul transfer and processing activities in the existing diversion area; (4) increase to the permitted hours for the receipt of waste to 7:00 a.m. to 7:00 p.m., seven days per week; (5) an increase in ancillary and facility operating hours to 24-hours a day, seven days per week; and (6) addition of 50.21 acres into the solid waste facility permit and land use permits as permitted facility boundary and solid waste disposal facility buffer.

Implementation of the project as proposed would require an amendment to the Kern County General Plan, amendment to the Kern County General Plan Appendix E “Shafter-Wasco RSLF” Map, and modification to the existing CUP to include modifications to current landfill and diversion operations, site boundaries, and landfill buffer.

Existing permits for the project site include a Solid Waste Facility Permit (No. 15-AA-0057) issued February 29, 2016 by the Kern County Public Health Services Department – Environmental Health Division and concurred with by the Department of Resources Recycling and Recovery (CalRecycle); Waste Discharge Order No. R5-2012-0011 adopted February 2, 2012 by the California Regional Water Quality Control Board – Central Valley Region (Water Board); Title V Permit to Operate S-3431 issued by the San Joaquin Valley Air Pollution Control District (APCD); and CUP No. 1, Map 78 approved September 29, 2009 by the Kern County Board of Supervisors.

The proposed project does not propose an increase in maximum tonnage, traffic volumes, refuse footprint, or landfill design capacity beyond what is currently permitted. The estimated closure date is being updated to reflect current disposal projections, waste settlement, regional growth rates, enhanced diversion

programs, and fluctuations in incoming tonnages; the updated estimated closure date is not due to a design capacity expansion.

This Draft Supplemental Environmental Impact Report (SEIR) has been prepared by Kern County as the Lead Agency under the California Environmental Quality Act (CEQA). This Draft SEIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, state, and federal permitting agencies that may be required to consider the project. The SEIR will be used by Kern County to determine whether to grant the necessary approvals for the project.

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

1.2 Project Summary

The project includes a request for land use entitlements necessary to facilitate the operation of a compost facility and expanded landfill operations that were originally approved by the Kern County Board of Supervisors and has been in operation since 1972 with modifications to the CUP No. 1, Map 78 on January 6, 1972 and September 29, 2009.

The project proponents is proposing modifications to current operations to include: (1) construction and operation of a covered aerated static pile forced aeration composting system with best available control technology in the existing diversion area; (2) composting approved feedstocks consistent with CalRecycle definitions; (3) enhancement to existing diversion activities by providing additional self-haul transfer and processing activities in the existing diversion area; (4) increase to the permitted hours for the receipt of waste to 7:00 a.m. to 7:00 p.m., seven days per week; (5) an increase in ancillary and facility operating hours to 24-hours a day, seven days per week; and (6) addition of 50.21 acres into the solid waste facility permit and land use permits as permitted facility boundary and solid waste disposal facility buffer.

Implementation of the project as proposed would require: a) Amendment to the Kern County General Plan (KCGP) to change a portion of the existing Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation, for 20 acres of the existing project site for a 100,000 ton per year compost facility); b) change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone; c) amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas; d) modification of the existing Conditional Use Permit (CUP No. 1, Map 78) to: a) Increase permitted facility area to include buffer area; b) designate 20 acres for a 100,000 ton/year compost facility; c) establish a finished compost storage time limit of 180 days to accommodate seasonal markets; d) integrate enhanced self-haul recycling operations into existing waste diversion operations; e) increase hours for the receipt of waste; f) increase facility operating hours.

Proposed Actions and Approvals

Development of the project requires several approvals and the Kern County Planning and Natural Resources Department, as lead agency for the project, has discretionary authority over the primary project proposal. To implement this project, the project applicant would need to obtain, at a minimum, the permits and approvals listed below. Additionally, once certified, the SEIR will be used to satisfy CEQA requirements for the following approvals:

Federal

No federal requirements are required for the proposed project.

State

- Regional Water Quality Control Board (RWRCB), revision to existing Waste Discharge Requirement or Site-Specific Waste Discharge Requirement permit or applicability of the General Order
- California Department of Resources, Recycling and Recovery (CalRecycle)
 - Concurrence of Solid Waste Facility Permit
 - Amendments to Joint Technical Document
 - Amendments to Odor Impact Minimization Plan
 - Amendments to Report of Compost Site Information

Local

- Kern County – Planning Commission and Board of Supervisors
 - Modification of existing Conditional Use Permit CUP No. 1
 - General Plan Amendment No. 10
 - Amendment of General Plan Appendix E Map “Shafter-Wasco RSLF”
 - Certification of Supplemental Environmental Impact Report
 - Adoption of Supplemental Mitigation Measures and Monitoring Program 2021
 - Adoption of Section 15091 Findings of Fact and Section 15093 Statement of Overriding Considerations
- Kern County Public Health Services Department, Environmental Health Division
 - Revisions and Issuance of Solid Waste Facility Permit
 - Amendments to Joint Technical Document
 - Amendments to Odor Impact Minimization Plan
 - Amendments to Report of Compost Site Information

- Kern County Fire Department
 - Fire Safety Plan
- San Joaquin Valley Air Pollution Control District
 - Authority to Construct
 - Permit to Operate
- Kern County Public Works, Building and Development, Flood Plain & Survey
 - Plan for the Disposal of Drainage Waters
 - Grading and Building Plans

1.3 Purpose and Use of this Supplemental Environmental Impact Report

Project History

The Shafter-Wasco Sanitary Landfill Permit Revision Project EIR (SCH #2004111015) was certified by the Kern County Board of Supervisors on September 29, 2009 and included the following actions for the Shafter-Wasco RSLF – amendment to the Kern County General Plan, amendment to the Appendix E Map; a CUP modification; petition to exclude the landfill and additional acreage owned by the County from Agricultural Preserve No. 8; revision to the solid waste facility permit and relocation and expansion of the diversion area; and issuance of revised Waste Discharge Requirements.

In 2019, the project applicant submitted applications to the Kern County Planning and Natural Resources Department for a General Plan Amendment and Conditional Use Permit modification to allow for the construction and operation of a 100,000 tons per year composting facility and enhancements to existing diversion activities by providing additional self-haul processing activities. The Kern County Planning and Natural Resources Department, as lead agency (per *CEQA Guidelines* Section 15051), has determined that a SEIR must be prepared for the proposed project pursuant to Sections 15162 and 15163 of the *CEQA Guidelines*.

Purpose of a Supplemental EIR

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

- The significant potential impacts of the project on the environment and indicate the manner in which those significant impacts can be avoided or mitigated;
- Any unavoidable adverse impacts that cannot be mitigated; and

- Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

As described in Section 1.3, *Project History* above, the Shafter-Wasco Sanitary Landfill Permit Revision Project EIR was certified on September 29, 2009. Pursuant to *CEQA Guidelines* Section 15163, a supplement to an EIR is intended to update the previous EIR and need contain only the information necessary to make the previous EIR adequate for the project as revised. *CEQA Guidelines* Sections 15162 and 15163 allow a supplement to an EIR to be prepared when:

- substantial changes are proposed in the project; and/or
- substantial changes occur with respect to the circumstances under which the project is being undertaken; and/or
- new information, which was not known and could not have been known at the time the EIR was certified as completed, becomes available; and
- only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

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

CEQA requires that a SEIR reflect the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft SEIR 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 SEIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

Reviewers of a Draft SEIR 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.

1.4 Project Overview

This section describes the regional setting, project site, surrounding land uses, objectives, and project site conditions and characteristics of the project. The project is described in further detail in Chapter 3, *Project Description*, of this Draft Supplemental EIR.

Regional Setting

The project is in the unincorporated area of western Kern County, California (as shown in Figure 3-1, *Site Vicinity Map*, Chapter 3, *Project Description* of this SEIR) and situated in the southern San Joaquin Valley. The proposed project is sited within the existing 407.69-acre Shafter-Wasco RSLF at 17621 Scofield Avenue, Shafter, CA 93263. The Shafter-Wasco RSLF is accessible from Scofield Avenue, one mile north of Lerdo Highway. The proposed project site is identified as APNs 088-100-38, 088-100-40, and 088-100-08, situated in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M). Land uses in the regional vicinity of the project site is intensive and exclusive agricultural, with the project site being bordered to the north, south, east, and west by agricultural development and cultivation. The nearest populated areas are the City of Shafter and the City of Wasco, approximately eight miles east and nine miles northeast, respectively, of the Shafter-Wasco RSLF permitted boundary and project site.

Project Site and Surrounding Land Uses

The proposed project site is currently permitted and operational and is comprised of the extensively disturbed landfill and landfill buffer areas which have been in continuous operation since July 1972 and recently being permitted via a conditional use permit in 2009. Other than the landfill, the visual setting of the region is predominantly flat land and farms. Topographically, the area surrounding the landfill is generally flat. Pre-landfill surface elevations immediately adjacent to the site area ranged from 294 feet above mean sea level (AMSL) to 301 feet AMSL. The pre-landfill elevations ranged from 280 feet AMSL to 310 feet AMSL. The top of the existing fill surface is currently above natural grade at 384 feet AMSL.

Agriculture is the predominant land use surrounding the site. Other land uses within a one-mile radius include orchards, irrigated land, commercial, and farm dwellings. The nearest dwelling, not on County owned land, is one-half (1/2) mile west of the site. Surrounding properties within an approximate two-mile radius are currently used for agricultural cultivation except for four dairies. Future land use in the area is projected to remain similar to existing land use. The existing landfill is compatible with adjacent farmland and vice-versa. All non-County owned parcels immediately adjacent to the project site are designated as Prime Farmland and are under active Williamson Act contracts which encourages continued compatible agricultural land use. However, the County owned project area is not under an active Williamson Act contract (Figure 3-3, *Williamson Act Map*), in this SEIR. County owned parcels within the project area are designated by the Department of Conservation as Vacant or Disturbed Land (north-east buffer), Grazing Land (north-west buffer), Urban and Built-Up Land (landfill), Prime Farmland (southern buffer), and Farmland of Statewide Importance (southernmost area of southern buffer) (Figure 3-4, *Department of Conservation Farmland Mapping Designations Map*), in this SEIR.

The nearest mapped active faults (during the Holocene period) to the site are the Kern Front and Buena Vista Faults, located 19 miles east and 24 miles south of the site, respectively. The San Andreas Fault is located 28 miles west of the site. No known or mapped faults trend towards or beneath the project site. The site is located within the administrative boundaries of the abandoned Garrison City Oil and Gas Field. There are no oil or gas wells on the project site. An abandoned oil pipeline crosses underneath the northern landfill buffer area that includes the diversion area operation and proposed composting area.

The project site within the existing Shafter-Wasco RSLF is amidst intensely cultivated fields. The site has been utilized by landfill operations, access roads, environmental monitoring wells, diversion activities,

drainage features, and agricultural farming. Vegetation is dominated by common salt brush; conspicuous plants also include non-native red brome, Arabian grass, mustards, ripgut brome, and Russian thistle.

Water bearing zones beneath the site consist of confined, unconfined and perched aquifers. In September 2018, the unconfined groundwater surface was measured in the landfill water well at a depth of 342 feet below grade surface. Current depth to the highest perched aquifer is approximately 70 to 85 feet below grade surface, and the predominant flow direction is to the east-northeast. The landfill groundwater monitoring system consists of background wells, compliance wells, evaluation monitoring program wells, and pan lysimeters. Current groundwater quality data confirms the continued presence of several volatile organic compounds (VOC) in the perched groundwater, with the highest concentrations occurring in samples from those wells nearest the unlined waste module, Module 1. The leachate collection recovery system is functioning for Modules 2 and 3.

The project area is not archaeologically or culturally resource sensitive and there are no historical landmarks in the area. The predominant soil type at the site is Milham sandy loam. The project area is outside of the 100-year floodplain. The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan. The nearest public airports are the Wasco Airport (10 miles northeast) and Minter Field Airport (13.8 miles east). The site is outside the planning spheres of influence for the Cities of Shafter and Wasco and outside the Metropolitan Bakersfield area.

Public facilities are not available due to the rural location of the project. The Shafter-Wasco RSLF is not located near an existing or planned recreational facility. The proposed project site would be served by the Kern County Sheriff's Office for law enforcement and public safety; the Kern County Fire Department for fire protection; and Kern County Emergency Medical Services for medical care services. The proposed project site is in a generally quiet noise environment. Agricultural equipment, crop dusters, and road traffic on Scofield Avenue are sources of off-site noise and landfill and diversion equipment are sources of on-site noise.

Project Objectives

CEQA requires a statement of project objectives (Section 15124 of the *CEQA Guidelines*). The proposed project would expand hours for the receipt of waste and ancillary/facility hours of operations of an existing Class III municipal solid waste landfill and allow for the operation of a covered aerated static pile composting system and facility, which would assist the State of California and Kern County in complying with the California's numerous statutes (Assembly Bills 341, 1594, 1826, and Senate Bill 1383) requiring the reduction of methane emissions resulting from landfill operations and the removal of organic materials from the disposal waste stream. The specific objectives for the proposed project, as identified by the project proponent, are as follows:

- Assist state and local governments (incorporated cities in Kern County) in complying with California's mandate of reducing greenhouse gas emissions by diverting organic waste from being disposed of in landfills;
- Facilitate the accomplishment of AB 341, which directs CalRecycle to increase statewide diversion to 75 percent by 2020;
- Facilitate CalRecycle's statewide diversion goal of 75 percent recycling, composting, or source reduction of materials by 2025 established under SB 1383 by targeting agricultural material, food

material, vegetative food material, manure, and other compostable, organic, and recyclable materials;

- Implement an organic waste recycling program to divert organic waste consistent with the requirement of AB 1826, Mandatory Commercial Organics Recycling, which requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week;
- Assist in requirement of AB 32 (California Global Warming Solutions Act of 2006) to reduce GHG emissions to 1990 levels by 2020. In 2016, Legislature passed SB 32 and AB 197, which requires a 2030 GHG emissions reduction target of 40 percent below 1990 levels;
- Construct and operate an efficient and cost-effective regional covered aerated static pile composting facility to accommodate the current and future needs of local municipal, commercial, business, and residential sources by diverting organic waste from landfills to reduce volatile organic compound and greenhouse gas emissions resulting from landfill operations;
- Reduce outbound traffic volume of raw organic waste to off-site regional facilities, utilizing existing County-owned lands and existing local infrastructure to compost locally sourced organic waste;
- Utilize portions of an existing County-owned and operated landfill for a composting facility and self-haul recycling operations to preserve prime farmland and minimize environmental impacts;
- Manufacture high quality compost for use in sustainable agricultural practices, community garden and beautification projects, residential use, and other beneficial end uses;
- Offer effective and enhanced solid waste disposal and diversion services to the residents of Kern County by providing additional hours for disposal and diversion; and
- Increase buffer area around the landfill and allow the inclusion of uses within the buffer area ancillary to landfill operations, as required by the policies and implementation measures of the Kern County General Plan.

Project Site Conditions

Existing Site Conditions and Permits/Approvals

The Shafter-Wasco RSLF is an active public Class III municipal solid waste disposal facility, owned by the County of Kern and operated by the Public Works Department since July 1972, that serves an area of 2,075 square miles, including the cities of Shafter, Wasco, Delano, McFarland, Bakersfield (northwest region) and the unincorporated communities of Glennville, Lost Hills, and Buttonwillow. The landfill services the residential, commercial, and agricultural waste and recycling needs of the County of Kern. Current operations receive waste from Public Works Department owned and operated transfer stations, including but not limited to, Buttonwillow, Glennville, McFarland-Delano, and Roberts Lane.

Landfill property was purchased from Stockdale Development Corporation on December 20, 1971. Prior to the County's acquisition of the property, the parcel was open space and used as a landing strip for a crop-dusting service. The landfill opened in July 1972. From 1999 to 2004, 247 acres of buffer lands were acquired around the landfill to preclude incompatible development adjacent to the landfill and for the

installation of any required environmental monitoring and control systems, drainage improvements, soil borrow areas, storm water diversion facilities, and diversion activities.

Existing permits for the landfill include a Solid Waste Facility Permit (No. 15-AA-0057) issued February 29, 2016 by the Kern County Public Health Services Department – Environmental Health Division and concurred with by the Department of Resources Recycling and Recovery (CalRecycle); Waste Discharge Order No. R5-2012-0011 adopted February 2, 2012 by the California Regional Water Quality Control Board – Central Valley Region (Water Board); Title V Permit to Operate S-3431 issued by the San Joaquin Valley Air Pollution Control District (APCD); and CUP No. 1, Map 78 approved September 29, 2009 by the Kern County Board of Supervisors.

Table 1-1: Project Site and Surrounding Land Uses, Existing General Plan Map Code Designations and Zoning Classifications			
Direction from Project Site	Existing Land Use	Existing Map Code Designation	Existing Zoning Classifications
Existing Project Site	Landfill Disposal, Diversion, and Landfill Buffer	3.4 (Solid Waste Disposal Facility); 3.4.1 (Solid Waste Disposal Facility Buffer); 8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
North	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
East	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
South	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
West	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)

Approved Operations

The site is currently permitted to receive non-hazardous municipal solid waste, residential waste, commercial waste, agricultural waste, construction and demolition waste, non-friable asbestos, industrial waste, compostable materials, dead animals, and inert debris. The site currently receives several materials/wastes for diversion and recycling. A detailed list is provided below. Liquid, designated, special, and hazardous wastes are not permitted for acceptance. In 2019, the landfill received approximately 692 tons per day (TPD), with an average of 591 TPD of material being disposed and 101 TPD being diverted. The permitted maximum tonnage is 1,500 TPD for 300 days per calendar year with a maximum of 2,250 TPD for 15 days per quarter. The permitted traffic volume is 788 vehicles per day, with an average of 255 vehicles per day. Source of vehicle traffic includes franchise haulers, municipalities, residential self-haul, contractors, and all other waste related vehicle types. Hours for the receipt of waste and ancillary operating hours may occur seven days per week from 7:00 a.m. to 4:00 p.m. The estimated date the Shafter-Wasco RSLF will reach permitted capacity is March 2055 per the 2019 Kern County Public Works Department

Capacity Study. The closure date is an estimate subject to annual review based upon such factors as fill rate, waste settlement, enhanced diversion programs, regional growth rates, fluctuations in incoming tonnages, and regulatory requirements and, therefore, is different than what was stated in the previously certified 2009 EIR (see Appendix B of this SEIR).

The project applicant operates several diversion programs. Materials designated for diversion include waste tires, white goods, scrap metal, wood waste (branches and lumber), inerts (concrete, asphalt, etc.), grass, leaves, manure, food waste, vegetative food waste, universal waste (cathode ray tubes, electronic devices), used motor oil, used oil filters, municipal recyclable materials (cardboard, plastics, glass, etc.), drywall, and product stewardship items (mattresses, carpet, etc.). Depending upon existing approvals and material types, materials are either stockpiled, loaded into trailers, or placed in roll-off bins. Storage, handling, and stockpiling activities for recyclable materials are conducted in a planned and controlled manner to minimize the risk of fire, health, and safety hazards, vector harborage, and public nuisances.

Activities that occur during hours for the receipt of waste include – waste acceptance; waste placement, spreading, and compaction; gatehouse transactions; load checking and screening; heavy equipment operation, movement of soils; access road construction; facility and equipment maintenance; operation of diversion programs; environmental monitoring; and all items presented below under ancillary and facility operations.

Activities that occur during ancillary and facility operating hours include – prescriptive cover placement; alternative daily cover placement and removal; facility and equipment maintenance; dust control activities; stockpile management; processing, loading, handling, and transporting of diversion materials; maintenance and operation of the compost facility; environmental monitoring system maintenance, installation, and monitoring; and other non-disposal related activities associated with the operation, maintenance, and monitoring of a solid waste disposal facility, compost facility, and diversion operation.

Currently, approximately 22,500 tons annually, of organic compostable material is stockpiled, handled, processed, and transferred through the diversion area of the Shafter-Wasco RSLF include green material, food material, vegetative food material, organic waste, manure, and agricultural material. Organic feedstocks are stockpiled in individual designated areas and processed through various machinery to remove contamination (L3 Starscreen or trommel screeners) or processed for size reduction (chipping/grinding and tub grinder). Depending upon the material type and destination, material is then in turn placed back into a stockpile configuration and loaded at a later date for transport to an off-site regional composting facility, beneficially reused onsite, or another suitable end market. Materials may also be directly loaded for transport and removed from the site. Diverted organic materials are currently transported off site to Recology Blossom Valley Organics – South, City of Bakersfield's Mount Vernon Recycling & Composting Facility, Liberty Composting Inc., Bakersfield Metropolitan (Bena) Sanitary Landfill, and Green Compass. Existing operations utilize, on average, twenty (20) large outbound vehicle trips per day and average a 35-mile one-way radius for hauling feedstocks to an end market.

Brush and yard trimmings are currently stockpiled, processed through a grinder, and then transported off site with small amounts of commingled grass and manure to a permitted composting facility. Food material and vegetative food material is currently deposited on the existing concrete pad, covered with a green material (grass or wood chips) to control for liquid runoff and nuisances (vectors, odors, litter, wildlife, flies, etc), and then transported off site to a permitted composting facility. Grass is currently deposited on the existing concrete pad, processed through an electrified star screen unit to remove contamination (plastics, glass, fabrics, etc), and then transported off site to a permitted composting facility. Manure and

agricultural material are currently deposited on concrete pad and consolidated into a vehicle with small amounts of grass and hay, and then transported off site to a permitted composting facility.

Self-haul vehicles entering the site are currently directed to the diversion area. Customers are directed to unload any targeted recyclable materials (as detailed above) into designated stockpiles. Dependent on the type of material being stockpiled and storage approvals in place from various regulatory agencies, materials may be stored between 30 and 180 days. Stockpiles and materials are stored in a manner to prevent public nuisances and vector harborage. After depositing materials, customers are sent to the active face to dispose of their remaining load or waste is placed in a low-profile roll-off bin in the diversion area for transport to the active face for disposal. Large commingled or heavily contaminated commercial and residential loads are not handled or processed at the diversion area and are sent directly to the landfill for disposal.

Solid waste facility buffer is utilized consistent with the existing CUP and currently identified land use approvals which includes – borrow area; drainage facilities; landfill gas and groundwater monitoring; passive energy collection facilities; construction and closure activities; drainage improvements and erosion controls; groundwater monitoring installations; landfill gas monitoring and extraction installations; areas required for landfill closure construction; leachate storage and extraction facilities; closure equipment staging facilities; Habitat Conservation Plan offsets; and buffer to prevent incompatible adjacent land uses. In addition to the above listed items, waste recycling and diversion activities and agricultural development under lease agreement are conducted in the solid waste facility buffer.

Various equipment is owned, operated, and maintained to conduct diversion and organic material handling and processing activities. The equipment inventory includes: L3 Star Screen or equivalent (screening of organic material); slow speed shredder (processing of organic material); stationary sorting line (screening of organic material); mobile loading dock (handling of various diversion materials); loaders (handling, loading, consolidation of various diversion materials); portable horizontal wood grinder (processing of wood waste); air curtain unit (processing of approved organic materials); baler (consolidation of cardboard or other recyclable materials); and other ancillary equipment needed for processing and handling of materials.

Existing Permitted Capacity

Based on the approved operations and the solid waste facility permit limits described above, the existing facility is permitted to accept 1,500 TPD for 300 days per calendar year with a maximum of 2,250 TPD for 15 days per quarter. The permitted design capacity of the Shafter-Wasco RSLF is 21,895,179 cubic yards, with a permitted maximum elevation of 440 feet above Mean Sea Level. The estimated date the Shafter-Wasco RSLF will reach permitted capacity is March 2055, per the 2019 Kern County Public Works Department Capacity Study. The proposed project does not propose a change to the landfill design capacity or refuse limit as a result this project. The estimated closure date is being updated to reflect current disposal projections, waste settlement, regional growth rates, enhanced diversion programs, and fluctuations in incoming tonnages; the updated estimated closure date is not due to a design capacity expansion.

Project Characteristics

The proposed project, if approved, would include an increase to the hours for the receipt of waste and ancillary/facility hours of operations of the existing Class III municipal solid waste landfill and include the construction and operation of the covered aerated static pile (CASP) forced aeration system. The compost

facility proposes the handling of 100,000 tons per year that allows for composting of green materials, food materials, vegetative food materials, agricultural material, and manure from residential, self-haul, commercial, and franchise and municipal haulers.

The project proponent owns 407.89 acres, identified as the project site (Shafter-Wasco RSLF), of which 357.48 acres are currently included in the approved CUP boundary as solid waste disposal facility and solid waste disposal facility buffer. The CUP boundary would be amended to include an additional 50.21 acres of landfill buffer and to designate 20 acres of existing landfill buffer to composting operations.

Proposed modifications include: (1) construction and operation of a covered aerated static pile forced aeration composting system with best available control technology in the existing diversion area; (2) composting approved feedstocks consistent with CalRecycle definitions; (3) enhancement to existing diversion activities by providing additional self-haul transfer and processing activities in the existing diversion area; (4) increase to the permitted hours for the receipt of waste to 7:00 a.m. to 7:00 p.m., seven days per week; (5) an increase in ancillary and facility operating hours to 24-hours a day, seven days per week; and (6) addition of 50.21 acres into the solid waste facility permit and land use permits as permitted facility boundary and solid waste disposal facility buffer.

Implementation of the project as proposed would require: a) Amendment to the Kern County General Plan (KCGP) to change a portion of the existing Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation, for 20 acres of the existing project site for a 100,000 ton per year compost facility); b) change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone; c) amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas; d) modification of the existing Conditional Use Permit (CUP No. 1, Map 78) to: a) Increase permitted facility area to include buffer area; b) designate 20 acres for a 100,000 ton/year compost facility; c) establish a finished compost storage time limit of 180 days to accommodate seasonal markets; d) integrate enhanced self-haul recycling operations into existing waste diversion operations; e) increase hours for the receipt of waste; f) increase facility operating hours.

Environmental Impacts

Section 15128 of the State *CEQA Guidelines* requires that an EIR contain a statement briefly indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. Kern County, as Lead Agency, has engaged the public to participate in the scoping of the environmental document. The contents of this Draft SEIR were established based on a Notice of Preparation (NOP) prepared in accordance with the State *CEQA Guidelines*, as well as public and agency input that was received during the scoping process. The comments to the NOP are found in Appendix A of this Draft SEIR.

Those specific issues that are found to have no impact or less-than-significant impacts during preparation of the NOP do not need to be addressed further in this Draft SEIR. Based on the findings of the NOP and the results of scoping, a determination was made that this Draft SEIR must contain a comprehensive analysis of all environmental issues identified in Appendix G of the State *CEQA Guidelines* except population and housing, public services, and recreation.

In addition, the County, as lead agency, conducted preliminary review of the proposed project and proposed modifications to CUP No. 1, Map 78 and has determined it is not likely to result in significant environmental effects to the following resources and/or would not substantially increase an impact already addressed in the previously certified 2009 *Shafter-Wasco Sanitary Landfill Permit Revision Project EIR* and the previously circulated 2007 Notice of Preparation: population and housing, public services, and recreation.

Impacts Not Further Considered in this Draft SEIR

As discussed in Appendix A of this Draft SEIR (Notice of Preparation), the project was determined to have no impact with regard to the following resource areas, and therefore, these topics are not analyzed in this Draft SEIR:

- Population and Housing
- Public Services
- Recreation

The NOP, 2009 Final EIR, and 2007 NOP determined the proposed project will not induce substantial unplanned population growth through the construction of new homes, roads, or other infrastructure nor displace any housing units or people. In addition, it was determined, relative to public services, that existing services are adequate to serve the proposed project and would not result in altering and creating new governmental and public services (police protection, schools, parks, or other public facilities). Regarding recreation, the Kern County General Plan does not identify any existing or proposed recreational facilities near the project area.

Impacts of the Project

Sections 4.1 through 4.17 in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, provide a detailed discussion of the environmental setting, impacts associated with the proposed 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 1-5, Summary of Impacts, Mitigation Measures, and Levels of Significance** located at the end of this chapter and are discussed further below.

Based on the findings of the NOP, a determination was made that an SEIR was required to address potentially significant environmental effects on the following resources:

- | | |
|------------------------------------|-------------------------------|
| • Aesthetics | • Hydrology & Water Quality |
| • Agriculture & Forestry Resources | • Land Use & Planning |
| • Air Quality | • Mineral Resources |
| • Biological Resources | • Noise |
| • Cultural Resources | • Transportation & Traffic |
| • Energy | • Tribal Cultural Resources |
| • Geology & Soils | • Utilities & Service Systems |
| • Greenhouse Gas Emissions; | • Wildfire |

- Hazards & Hazardous Materials

Less-than-Significant Impacts

Table 1-2 presents those impacts of the project that were determined to be less than significant, or less than significant with the implementation of mitigation measures. Less than significant cumulative impacts are also included in this table. Sections 4.1 through 4.17 of this Draft SEIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in Table 1-2 would reduce impacts to a less-than-significant level.

Table 1-2: Summary of Proposed Project Impacts that are Less than Significant or Less than Significant with Mitigation

Impact	Mitigation Measures
Aesthetics, 4.1 (Project and Cumulative)	MM 4.1-1
Agriculture and Forest Resources, 4.2 (Project and Cumulative)	MM 4.2-1
Greenhouse Gas Emissions, 4.4 (Project and Cumulative)	None required
Biological Resources, 4.5 (Project and Cumulative)	MM 4.5-1 through MM 4.5-4
Cultural Resources, 4.6 (Project and Cumulative)	MM 4.6-1 through MM 4.6-3
Geology and Soils, 4.7 (Project and Cumulative)	MM 4.7-1 through MM 4.7-3; MM 4.9-1 through 4.9-3
Hazards and Hazardous Materials, 4.8 (Project and Cumulative)	MM 4.8-1 through MM 4.8-5
Hydrology and Water Quality, 4.9 (Project and Cumulative)	MM 4.9-1 through MM 4.9-3 and MM 4.8-2
Land Use and Planning, 4.10 (Project and Cumulative)	None required
Mineral Resources, 4.11 (Project and Cumulative)	MM 4.11-1 through MM 4.11-2
Noise, 4.12 (Project and Cumulative)	None Required
Utilities and Service Systems, 4.13 (Project and Cumulative)	MM 4.13-1
Traffic and Transportation, 4.14 (Project and Cumulative)	None required
Tribal Cultural Resources, 4.15 (Project and Cumulative)	MM 4.6-1 through MM 4.6-3
Energy, 4.16 (Project and Cumulative)	MM 4.3-1 (from Air Quality section)
Wildfire, Section 4.17 (Project and Cumulative)	None Required

Project Level Significant and Unavoidable Impacts

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

Table 1-3, below, presents those impacts of the project that are significant and unavoidable even with the implementation of mitigation measures. Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft SEIR presents a detailed analysis of these impacts and describe the means by which the mitigation measures listed in **Table 1-3** would reduce the severity of project-related impacts to the extent feasible.

Table 1-3: Summary of Proposed Project Impacts that are Significant and Unavoidable	
Impact	Mitigation Measures
Air Quality (Project and Cumulative)	MM 4.2-1 through MM 4.2-7

Significant Cumulative Impacts

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

- Air Quality

Irreversible Impacts

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

The proposed 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 fuels resulting from heavy- and light-duty equipment operation and construction activities. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of short-term construction and 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.

Growth Inducement

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

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

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. As described in Chapter 3, *Project Description*, the project would expand existing landfilling operations and operation a new composting facility and would not result in the construction of any residential uses (or any other types of uses) that could directly induce population growth in Kern County or the surrounding vicinity. The proposed project would result in increased temporary onsite construction workforce. It is anticipated that the construction workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Bakersfield, Shafter, Wasco, or other local communities. Operation of the proposed project would increase the total number of permanent employees by two (2). 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 demand. Therefore, the additional of 2 permanent employees would not result in significant increase in growth. No expansion of municipal infrastructure or public services would be required to accommodate the project.

Additionally, the project, increasing landfill operations and operation of a new composting facility, would not induce new growth but instead response to increased market demand and solid waste management needs of the region. 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 demand. Therefore, any link between the project and growth in Kern County would be speculative.

1.5 Overview of Alternatives to the Project

The purpose of the alternatives analysis is to analyze alternatives that could reduce the significant impacts of a project. Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project and the feasibility of the alternatives considered, a range of alternatives is analyzed below. Alternatives are described in detail in Chapter 6, *Alternatives*, of this Draft SEIR. **Table 1-3, Summary of Proposed Project Impacts that are Significant and Unavoidable, above**, provides a summary of the relative impacts and feasibility of each alternative. **Table 1-4, Summary of Development Alternatives, below** provides a summary side-by-side comparison of the potential impacts of the alternatives and the project.

- No Project Alternative
- Reduced Size Compost Facility
- Utilize Other County-Owned Property

Alternative 1: No Project Alternative

The *CEQA Guidelines* require an SEIR to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the project site would continue to operate as a municipal solid waste disposal facility with ancillary landfilling activities and diversion activities, and existing project operations would continue with no authorized expansions or changes in

operations. The proposed expansion and addition or modification of the following components would not occur:

- a) amendment to the Kern County General Plan (KCGP) to change a portion of the existing Map Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation, for 20 acres of the existing project site for a 100,000 ton per year compost facility);
- b) change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone;
- c) amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas;
- d) modification of the existing Conditional Use Permit (CUP No. 1, Map 78) to 1) increase permitted facility area to include buffer area; 2) designate 20 acres for a 100,000 ton/year compost facility; 3) establish a finished compost storage time limit of 180 days to accommodate seasonal markets; 4) integrate enhanced self-haul recycling operations into existing waste diversion operations; 5) increase hours for the receipt of waste; 6) increase facility operating hours

The No Project Alternative would maintain the current land use classifications and the existing land uses, developed with the existing sanitary landfill, buffer lands, and diversion activities, would continue for an indefinite period. Under the No Project Alternative, there would be no project, no amendments, and the existing project site would continue to operate consistent with existing operations and permits. The proposed 20-acre area intended for the construction of a compost facility is currently permitted for ancillary activities related to landfill operations, such as drainage features, diversion activities, stockpiling, processing and material handling, emergency staging, and environmental monitoring.

Alternative 2: Reduced Size Compost Facility

Alternative 2, Reduced Size Compost Facility, would include a smaller scale composting facility design capacity at the existing project site. The design capacity would be 30,000 tons per year and constructed in a single phase. The alternative would process feedstocks, similar to the proposed project, through various machinery to remove contamination then place feedstocks into a compost pile. All organic materials and compostable feedstocks beyond 30,000 tons received would be processed to remove contaminants and transported off site to regional composting facilities. Similar to the proposed project, this alternative would require an amendment to the KCGP to change a portion of the existing Map Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation of the existing project site for a 30,000 ton per year compost facility; change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone; an amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with newly designated buffer and compost areas; and modification of the existing CUP to allow for composting operations.

This alternative, similar to the proposed project, would increase hours for the receipt of waste and increase the ancillary and facility operating hours to the existing landfill operation, as well as integration of enhanced self-haul activities into existing diversion operations at the project site and applicable permit amendments and modifications would be completed. This alternative would be subject to permitting through the Kern

County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a revised Solid Waste Facility Permit. The CUP modification would include an increase in hours for the receipt of waste and an increase in facility operating hours.

Alternative 3: Utilize Other County-Owned Property

Alternative 3, Utilize Other County-Owned Property, would propose the siting, permitting, construction, and operation of a stand-alone compost facility on other property located within the boundaries of Kern County that is currently owned by the project proponent. The alternative project would likely remain within the San Joaquin Valley region of the County, similar to the proposed project, to meet the organics and solid waste management needs of the northwest region of Kern County. This alternative, depending upon the existing designations and zoning of the selected property, would require an amendment to the Kern County General Plan and may require a zone change case to the Kern County Zoning Ordinance. The land use designation would be amended to a 3.7 (Other Waste Facilities) designation and would require the issuance of a new Conditional Use Permit to allow for composting operations with associated activities. Similar to the proposed project, this alternative would propose a covered aerated static pile composting operation that would process feedstocks through various machinery to remove contamination then place feedstocks into a compost pile. Finished compost would be used for an amendment to agricultural farmland soil, community beautification projects, and residential property use. This alternative would be subject, similar to the proposed project, to permitting through the Regional Water Quality Control Board – Central Valley for new Waste Discharge Requirements, the Kern County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a new Solid Waste Facility Permit or new Registration Permit, and the San Joaquin Valley Air Pollution Control District for an Authority to Construct and Permit to Operate.

This alternative, similar to the proposed project, would increase hours for the receipt of waste and increase ancillary and facility operating hours to the existing landfill operation, as well as integration of enhanced self-haul activities into existing diversion operations at the project site and applicable permit amendments and modifications would be completed. This alternative would be subject to permitting through the Kern County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a revised Solid Waste Facility Permit.

Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an SEIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines*, Section 15126.6[c]). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (*CEQA Guidelines*, Section 15126[f][2]). Kern County considered several alternatives to reduce impacts to air quality, energy, greenhouse gas emissions, and transportation. 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 considered but eliminated from further consideration in this SEIR because they would not eliminate or substantially reduce any significant and unavoidable project or cumulative impacts. Additionally, alternatives screened from detailed consideration would not meet project objectives and/or were infeasible.

- Increased Size Composting Facility
- Advanced Conversion Technologies

Increased Size Composting Facility

This alternative would involve the development of the proposed project at a larger scale composting facility than proposed and would increase the proposed additions and modifications to the approved CUP boundary. This alternative would increase the facility's tonnage capacity beyond 100,000 tons per year which would allow for a greater volume of organic material to be diverted from landfills, reduce landfill greenhouse gas emissions, and reduce volatile organic compounds emissions, more than the proposed project. A larger tonnage capacity would also require additional truck trips and use of mobile and stationary equipment. An increased size compost facility would require the acquisition of additional lands currently designated as farmland of significance or would require relocation of the composting facility to the southern portion of the proposed permitted facility boundary that is not located or suited for continuity of ongoing and proposed operations. Given the above reasons along with the limited acreage available to the project proponent for project construction and operations, this alternative was determined to be infeasible in relation to meeting the majority of project objectives.

Advanced Conversion Technologies

This alternative would involve the development, installation, and operation of advanced conversion technologies to handle and process organic materials. Types of advanced conversion technologies include food waste dehydrators; food waste liquefiers; aerobic and anerobic digesters; biomass conversion; in-vessel composting; and other new and emerging technologies. This alternative would include the processing of organic materials for incorporation into an emerging technology system that would include the production of finished compost, biogas, alternative fuel, electrical energy, steam, electricity, renewable natural gas, or biofuels, which is wholly dependent upon the technology and system design chosen. Conversion of organic materials to energy through the use of thermochemical, biochemical, or physiochemical processes would create useful forms of energy from organic materials.

Advanced conversion technology projects, such as those identified above, would require notification, permitting, scoping, review, and approvals through potentially numerous local, state, and federal regulatory agencies and jurisdictions. The speculative nature of other new and emerging conversion technologies, including the construction, implementation, and operation of said technologies, would not allow the project proponent to meet the majority of project objectives as desired above. Given the speculative nature and several unknown operational and permitting requirements for such advanced conversion technologies as well as the unknown cost of designed and constructing technology systems, this alternative was eliminated because it is unknown if technologies would not avoid or substantially reduce the significant environmental effects of the proposed project.

Table 1-4. Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Project	<ul style="list-style-type: none"> Amendment to the Kern County General Plan to change approximately 20 acres from the existing Map Code 3.4.1 (Solid Waste Facility Buffer) designation to Map Code 3.7 (Other Waste Facilities) designation Change the designation of 50.21 acres of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) Amendment to the Kern County General Plan Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas Modification of the existing CUP No. 1, Map 78 to increase permitted facility area to include buffer area, allow for composting operations, increase hours for the receipt of waste, and increase facility operating hours Operation of a covered aerated static pile compost facility to reduce odors, control VOC emissions, and enhanced waste diversion 	<ul style="list-style-type: none"> N/A
Alternative 1: No Project Alternative	<ul style="list-style-type: none"> Proposed project would not be constructed, Project operations would continue with no authorized expansions or changes in landfill or waste diversion operations A covered aerated static pile system would not be constructed or operated, and the facility would continue with existing landfilling and waste diversion activities 	<ul style="list-style-type: none"> Required by CEQA Avoids General Plan Amendment, Conditional Use Permit modification, and amendment to Appendix E Map

Table 1-4. Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 2: Reduced Size Composting Facility	<ul style="list-style-type: none"> Includes construction and operation of a reduced size covered aerated static pile compost facility compared to the proposed project All other aspects of this alternative, including an increase in permitted facility area as buffer area, an increase in hours for the receipt of waste, and increase facility operating hours would remain the same as the proposed project 	<ul style="list-style-type: none"> Most environmental impacts would be either similar or lesser under this alternative; however, air quality, greenhouse gas emissions, and utilities and service systems would be greater. Allows for increased landfill operations and needed composting operations to meet State and local regulatory requirements
Alternative 3: Utilize Other County-Owned Property	<ul style="list-style-type: none"> Construct and operate a stand-alone covered aerated static pile compost facility on another parcel owned by the project proponent that is distinct from the existing project site The compost facility would more than likely require a Kern County General Plan Amendment, a new Conditional Use Permit, a new Solid Waste Facility Permit, and new Waste Discharge Requirements All other aspects of this alternative, including an increase in permitted facility area as buffer area, an increase in hours for the receipt of waste, and increase facility operating hours would remain the same as the proposed project 	<ul style="list-style-type: none"> Energy, greenhouse gas emissions, utilities and service systems, and geology and soils impacts would be similar, while all other environmental impacts would increase under this alternative. Allows for increased landfill operations and needed composting operations to meet State and local regulatory requirements

Table 1-5: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Size Compost Facility	Alternative 3: Utilize Other County Owned Property
Aesthetics	Less than significant with mitigation	Less	Similar	Greater
Agricultural & Forestry Resources	Less than significant with mitigation	Less	Similar	Greater
Air Quality	Less than significant with mitigation	Greater	Greater	Similar
Biological Resources	Less than significant with mitigation	Similar	Similar	Greater
Cultural Resources	Less than significant with mitigation	Similar	Similar	Similar
Energy	Less than significant	Less	Less	Greater
Geology & Soils	Less than significant with mitigation	Less	Less	Greater
Greenhouse Gas Emissions	Less than significant	Greater	Greater	Similar
Hazards & Hazardous Materials	Less than significant with mitigation	Similar	Similar	Similar
Hydrology & Water Quality	Less than significant with mitigation	Less	Less	Greater
Land Use & Planning	Less than significant	Less	Similar	Greater
Mineral Resources	Less than significant with mitigation	Similar	Similar	Similar
Noise	Less than significant	Less	Less	Similar
Transportation	Less than significant	Similar	Similar	Greater
Tribal Cultural Resources	Less than significant with mitigation	Similar	Similar	Similar
Utilities & Service Systems	Less than significant with mitigation	Less	Greater	Greater
Wildfire	Less than significant	Similar	Similar	Similar
Meet Project Objectives?	Yes	None	Partially	Partially

Table 1-5: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Size Compost Facility	Alternative 3: Utilize Other County Owned Property
Reduce Significant and Unavoidable Impacts?	Significant and Unavoidable for cumulative Air Quality	No	No	No

1.6 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in Table 1-4, Comparison of Alternatives and Table 6-2, Comparison of Alternatives in Chapter 6 Alternatives, there are a number of factors in selecting the environmentally superior alternative. An SEIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts.

However, CEQA Guidelines Section 15126.6(e)(2) states:

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

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be Alternative 2, or the Reduced Size Compost Facility alternative. This alternative would have similar or lesser impacts to the majority of the less-than-significant impacts that would occur under the proposed project because less construction disturbance and operations activities would occur and would result in less usage of water, non-renewable, and energy resources. Impacts related to air quality, GHGs, and utilities and service systems would be increased in comparison to the proposed project because a greater amount of organic materials would be sent for disposal resulting in additional landfill gas generation and limit the ability to comply with State and local reduction statutes and regulations related to solid waste. However, no substantially adverse and long-term impacts would occur to the environment. Overall, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

1.7 Areas of Controversy

Areas of controversy were identified through written agency and public comments received during the circulation of the NOP and comments for the project. A list of the public comments received during the NOP circulation period are provided in Chapter 2, *Introduction*, Table 2-1, *Summary of NOP Comments*, of this SEIR. In summary, the following issues were identified during the circulation of the NOP and comments period and are addressed in the appropriate sections of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*:

- Impacts to air quality
- Impacts to cultural resources
- Impacts to energy resources
- Impacts to greenhouse gas emissions
- Impacts due to hazards and hazardous materials
- Impacts to mineral resources
- Impacts to transportation and traffic
- Impacts to tribal cultural resources
- Impacts to utilities and service systems

1.8 Issues to Be Resolved

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

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

- Determine whether additional mitigation measures need to be applied to the project.

1.9 Summary of Environmental Impacts and Mitigation

Table 1-6 summarizes the environmental impacts of the proposed project, mitigation measures, and unavoidable significant impacts identified and analyzed in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft SEIR. Refer to the appropriate SEIR section for additional information.

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Aesthetics			
Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	No Impact	No mitigation required	No impact
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact	No mitigation required	No impact

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1-3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Less than significant	No mitigation required	Less than significant
Impact 4.1-4: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area	Potentially significant	MM 4.1-1: Adherence with the Kern County Zoning Ordinance, Dark Skies Ordinance (Chapter 19.81) and for all permanent lighting to be directed downwards and shielded to minimize the potential for spillover lighting.	Less than significant with mitigation
Cumulative – Aesthetics	Potentially significant	Implement MM 4.1-1	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural uses	Potentially significant	MM 4.2-1: Prior to the Board of Supervisors approval of a construction contract that will permanently remove prime farmland from agricultural production, the applicant shall provide written evidence of an agricultural deed covenant to mitigate the loss of agricultural land at a ratio of 1:1 for net acreage before conversion. Net acreage is to be calculated based on excluding existing roads and areas already removed. A plot plan shall be submitted substantiating the net acreage calculation along with written evidence of compliance. Mitigation land will meet the definition of prime farmland or farmland of statewide importance established by the State Department of Conservation. Mitigation can be on qualifying land within the San Joaquin Valley or outside the San Joaquin Valley with written evidence that the same or equivalent crops can be produced on the mitigation land.	Less than significant with mitigation
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or a Williamson Act Contract.	Less than significant	No mitigation required	Less than significant
Impact 4.2-3: The project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))	No Impact	No mitigation required	No impact

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-4: The project would result in the loss of forestland or conversion of forestland to non-forest use.	No Impact	No mitigation required	No impact
Impact 4.2-5: The project would involve other changes in the existing environment, which due to their location or nature, would result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use.	Less than significant	Implement MM 4.2-1	Less than significant
Impact 4.2-6: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.	No Impact	No mitigation required	No impact
Cumulative – Agriculture and Forest Resources	Potentially significant	Implement MM 4.2-1	Less than significant with mitigation
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan	Potentially significant	<p>MM 4.3-1. The project is required to comply with applicable state and federal air pollution control laws and regulations, and with applicable rules and regulations of the San Joaquin Valley Air Pollution Control District (SJVAPCD) during construction and operations, including obtaining the required permit for the modified facility.</p> <p>MM 4.3-2: The project proponent shall continuously comply with the following measures during construction and operations to control emissions from on-site dedicated equipment (equipment that would remain on-site each day):</p>	Less than Significant

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>a. All on-site off-road equipment and on-road vehicles for operation/maintenance shall meet the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied gas, or electric, as appropriate.</p> <p>b. All equipment shall be turned off when not in use, where feasible. Engine idling of all equipment shall be minimized.</p> <p>c. All equipment engines shall be maintained in good operating condition and in tune per manufacturer's specification.</p> <p>MM 4.3-3: Prior to issuance of grading permit, the project proponent shall submit a Fugitive Dust Control Plan to SJVAPCD for review and approval. The Fugitive Dust Control Plan shall reduce emissions, during construction of particulate matter that is 10 microns or less and 2.5 microns or less in diameter (PM10 and PM2.5). The Fugitive Dust Control Plan shall include:</p> <p>a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission and implementation of the plan.</p> <p>b. Description and location of operation(s).</p>	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>c. Listing of all fugitive dust emissions sources included in the operation.</p> <p>d. The following dust control measures shall be implemented:</p> <ol style="list-style-type: none"> 1. All on-site unpaved roads shall be effectively stabilized using water or chemical soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts included loss of vegetation. 2. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles will be watered as needed to limit dust emissions to less than 20 percent opacity or covered with temporary coverings. 3. Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and those activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used to minimize visible dust plumes. 	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>4. Track-out debris onto public paved roads shall not extend 50 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday.</p> <p>5. All hauling materials should be sufficiently moist while being loaded into dump trucks.</p> <p>6. All haul trucks hauling soil, sand and other loose materials on public roads shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).</p> <p>7. Soil loads should be kept below 6 inches or the freeboard of the truck.</p> <p>8. Drop heights should be minimized when loaders dump soil into trucks.</p> <p>9. Gate seals should be tight on dump trucks.</p> <p>10. Traffic speeds on unpaved roads shall be limited to a maximum of 25 miles per hour.</p> <p>11. All grading activities shall be suspended when visible dust emissions exceed 20 percent.</p>	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>12. Other fugitive dust control measures as necessary to comply with San Joaquin valley Air Pollution Control District Rules and Regulations.</p> <p>13. Disturbed areas should be minimized.</p> <p>MM 4.3-4: Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions:</p> <p>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</p>	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Planning and Natural Resources Department 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, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, 	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		digital media files, or photographs.	
		Construction Measures:	
		MM 4.3-5: Fugitive Dust Control Measures.	
		The project proponent shall ensure construction of the project shall be conducted in compliance with 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	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>or use of a dust suppressant.</p> <p>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.</p> <p>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.</p> <p>4. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20% 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.</p> <p>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 six inches.</p>	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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, mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.	
		11. The project operator shall use GPS or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.	
		12. When grading is unavoidable, it	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>is to be phased and done with the application of approved chemical dust palliatives that stabilize the earth.</p> <p>13. Where ground is cleared, plant roots must be left in place where possible to stabilize the soil.</p> <p>b. Site Construction. After active clearing, grading, and earth moving is completed within any portion of the site, the following dust control practices shall be implemented:</p> <ol 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 	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		to or greater than 100 centimeters per second (cm/S).	
		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	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>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.</p> <p>5. Streets adjacent to the project site shall be kept clean, and project-related accumulated silt shall be removed on at a minimum of once daily, or as necessary to prevent substantial offsite fugitive dust releases. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.</p> <p>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.</p> <p>d. Water Suppression. Water trucks shall transit across the project site and</p>	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>construction access roads to suppress the fugitive dust from disturbed soils on roads and active working areas on a regular and as needed basis.</p> <p>MM 4.3-6: The project proponent and/or its contractors shall implement the following measures during construction of the project:</p> <ul style="list-style-type: none"> a. All equipment shall be maintained in accordance with the manufacturer's specifications. b. Construction- and project-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than ten minutes. c. No individual piece of construction equipment shall operate longer than eight consecutive hours per day. d. Electric equipment and existing power sources 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 NOX emissions. 	

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> f. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. g. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible. h. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use, where feasible. i. Off-road equipment engines over 50 horsepower shall be Tier 2 certified or higher (unless Tier 2 equipment, has been determined to not be available). 	
Impact 4.3-2: The project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Specifically, would implementation of the project exceed any of the following adopted thresholds of the San Joaquin Valley Air Pollution Control District	Potentially significant	Implement Mitigation Measures MM 4.3-1 through MM 4.3-6	Significant but Unavoidable

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-3: The project would expose sensitive receptors to substantial pollutant concentrations	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-3 through MM 4.3-6.	Less than significant
		<u>COVID-19</u> MM 4.3-7: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval	
Impact 4.3-4: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than significant	Implement Mitigation Measure 4.3-1	Less than significant
Cumulative – Air Quality	Potentially significant	Implement Mitigation Measures MM 4.3-1 through MM 4.3-7 .	Significant and unavoidable
4.4 Greenhouse Gas Emissions (formerly Global Climate Change, 2009)			
Impact 4.4-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation required	Less than significant
Impact 4.4-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Less than significant	No mitigation required	Less than significant
Cumulative – Greenhouse Gas Emissions	Less than significant	No mitigation required	Less than significant

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.5 Biological Resources			
Impact 4.5-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	Potentially significant	<p>MM 4.5-1: Prior to, and during, new ground disturbance, such as the development of the new diversion area or a future borrow pit, the project proponent shall implement HCP Minimization and Avoidance measures for activities on buffer lands.</p> <p>MM 4.5-2: The Kern County Waste Management Department shall amend buffer lands into HCP the Kern County Waste management Habitat Conservation Plan to include additional buffer lands.</p> <p>MM 4.5-3: The project proponent shall conduct a pre-construction survey of any proposed new ground disturbance during the Burrowing owl breeding season (from approximately February 1 through August 31), consistent with CDFW guidelines, in the same calendar year that the disturbance is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed disturbance. If the pre-construction breeding season survey does not identify any nesting owl on the proposed site, then no further mitigation would be required. However, should any Burrowing owl be found nesting on the site, then mitigation measure MM 4.5-4 shall be implemented.</p> <p>MM 4.5-4: During the Burrowing owl breeding season, the department, consistent with CDFW guidelines, shall not disturb an occupied owl burrow while there is an active nest and/or juvenile owls are present. Avoidance shall</p>	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		include the establishment of a non-disturbance buffer zone around the nest site consistent with CDFW guidelines. The buffer zone shall be delineated by highly visible temporary construction fencing or tape. The occupied nest site shall be monitored by a qualified biologist to determine when the juvenile owl is fledged and independent. Disturbance of an occupied burrow shall only occur outside of the breeding season and when there is no nest or juvenile owl based on monitoring by a CDFW-approved biologist.	
Impact 4.5-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.	No Impact	No mitigation required	No impact
Impact 4.5-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No Impact	No mitigation required	No impact
Impact 4.5-4: 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	No Impact	No mitigation required	No impact
Impact 4.5-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	No Impact	No mitigation required	No impact
Impact 4.5-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other	Potentially significant	Implement MM 4.5-1 through MM 4.5-4 .	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
approved local, regional, or state habitat conservation plan			
Cumulative – Biological Resources	Potentially significant	Implement MM 4.5-1 through MM 4.5-4	Less than significant with mitigation
4.6 Cultural Resources			
Impact 4.6-1: The project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.	No Impact	No mitigation required	No impact

Impact 4.6-2: The project would cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.	Potentially significant	<p>MM 4.6-1: If Native American burial sites are discovered during excavation of the site, the excavation shall be halted and the project shall comply with the Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e).</p> <p>MM 4.6-2: 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 qualified archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. Per <i>CEQA 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. Consistent with <i>CEQA Guidelines</i> Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center.</p>	Less than significant with mitigation
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Impact 4.6-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	Mitigation Measures MM 4.6-1 and MM 4.6-2; and	Less than significant with mitigation
		<p>MM 4.6-3: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in of the California Environmental Quality Act Guidelines Section 15064.4(e)(1). If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.</p>	
Cumulative – Cultural Resources	Potentially significant	Implement MM 4.6-1 through MM 4.6-3 .	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.7 Geology & Soils			

<p>Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides.</p>	<p>Potentially significant</p>	<p>MM 4.7-1: In accordance with the California Code of Regulations Title 27, Section 20370, landfill construction shall be designed and built to withstand the maximum probable earthquake so that the landfill system is not compromised during a major seismic event.</p> <p>MM 4.7-2: In accordance with the applicable construction requirements of the Uniform Building Code's standards, future structures at the site will be designed to accommodate anticipated seismic loads.</p> <p>MM 4.7-3: Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction onsite 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.</p> <p>a. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.</p> <p>b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.</p>	<p>Less than significant with mitigation</p>
<p>Impact 4.7-2: The project would result in substantial soil erosion or the loss of topsoil.</p>	<p>Less than significant</p>	<p>No mitigation required</p>	<p>Less than significant</p>

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-3: 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.	Potentially significant	Implement MM 4.7-2	Less than significant with mitigation
Impact 4.7-4: The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Potentially significant	Implement MM 4.7-1 through MM 4.7-3	Less than significant with mitigation
Impact 4.7-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.	No Impact	No mitigation required	No impact
Impact 4.7-6: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	No Impact	No mitigation required	No impact
Cumulative – Geology & Soils	Potentially significant	Implement MM 4.7-1 through MM 4.7-3 and MM 4.9-1 through MM 4.9-3 .	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.8 Hazards & Hazardous Materials			

<p>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.</p>	<p>Potentially significant</p>	<p>MM 4.8-1: All hazardous wastes shall be stored and properly managed in accordance with the approved Hazardous Waste Exclusion Program Load Check Guide and state and local regulations until transported for proper disposal. Hazardous materials shall be managed and stored properly. Training shall be provided to all personnel involved in the handling of hazardous materials and wastes.</p> <p>MM 4.8-2: Prior to the issuance of grading or building permits, the project proponent shall update the existing Hazardous Materials Business Plan to reflect changes to existing operations with the project and submit it to the Kern County Public Health Services Department, Environmental Health Services Division/Hazardous Materials Section for review and approval.</p> <p>a. The Hazardous Materials Business Plan shall:</p> <ol style="list-style-type: none"> 1. Delineate hazardous material and hazardous waste storage areas; 2. Describe proper handling, storage, transport, and disposal techniques; 3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill; 4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; 5. Establish public and agency notification procedures for spills and other emergencies including fires; and 6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site. 	<p>Less than significant with mitigation</p>
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Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>b. The project proponent shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.</p> <p>c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the Kern County Planning and Natural Resources Department.</p>	

<p>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>Potentially significant</p>	<p>Implement MM 4.8-1 and MM 4.8-2; and</p> <p>MM 4.8-3: The portion of the landfill must have all pipelines marked and potholed prior to construction. The statement “48 hours prior to commencement of construction activities, contact to arrange for field markings of Shell’s facilities” will be incorporated on final construction drawings. This notification is in addition to notification through Underground Service Alert.</p> <p>MM 4.8-4: The project proponent shall continuously comply with the following:</p> <ul style="list-style-type: none"> a. The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e. non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. b. Herbicides shall be mixed and applied in conformance with the manufacturer’s directions. c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. 	<p>Less than significant with mitigation</p>
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Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. 	
Impact 4.8-3: The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school.	No Impact	No mitigation required	No impact
Impact 4.8-4: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	Less than significant	No mitigation required.	Less than significant
Impact 4.8-5: The project would for a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area.	Less than significant	No mitigation required	Less than significant

<p>Impact 4.8-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.</p>	<p>Potentially significant</p>	<p>Implement Mitigation Measures 4.8-1 through MM 4.8-4; and</p> <p>MM 4.8-5: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.</p> <p>The project proponent shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:</p> <ul style="list-style-type: none"> a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to 	<p>Less than significant with mitigation</p>
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Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		prevent them from growing into more serious threats. f. The project proponent shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.	
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.	No Impact	No mitigation required	No impact
Impact 4.8-8: The project would during implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste.	Less than significant	No mitigation required	Less than significant
Cumulative – Hazards and Hazardous Materials	Potentially significant	Implement MM 4.8-1 through MM 4.8-5	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.9 Hydrology & Water Quality			
Impact 4.9-1: The project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	Potentially significant	<p>Implement Mitigation Measure MM 4.8-2; and</p> <p>MM 4.9-1: The Kern County Public Works Department shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) as required under the General Construction Permit for Discharges of Storm Water Associated with Construction Activities, for all construction phases of the project. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge and shall require the implementation of best management practices (BMPs) to reduce pollutants in stormwater discharges.</p> <p>MM 4.9-2: The Kern County Public Works Department shall submit a Notice of Intent (NOI) and technical report as specified in Attachments C and D of the State Water Resources Control Board Order WQ 2015-0121-DWQ General Waste Discharge Requirements for Composting Operations.</p> <p>MM 4.9-3: The Kern County Public Works Department shall apply for and receive approval from the Regional Water Quality Control Board for the proposed project through issuance of revised site-specific Waste Discharge Requirements (WDRs).</p>	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.9-2: The project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	Less than significant	No mitigation required	Less than significant
Impact 4.9-3: The project would 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 result in a substantial erosion or siltation on- or off-site; substantially increase the rate of amount of surface runoff in a manner which would result in flooding on or offsite; 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 impeded or redirect flood flows.	Potentially significant	Implement MM 4.9-1 and MM 4.9-3	Less than significant with mitigation
Impact 4.9-4: The project would, in flood hazard, tsunami, seiche zones, risk release of pollutants due to project inundation.	No Impact	No mitigation required	No impact
Impact 4.9-5: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially significant	Implement MM 4.9-1 and MM 4.9-3	Less than significant with mitigation
Cumulative – Hydrology & Water Quality	Potentially significant	Implement MM 4.9-1 through MM 4.9-3	Less than significant with mitigation
4.10 Land Use & Planning			
Impact 4.10-1: The project would physically divide an existing community or contribute to the decline of an existing community (a physical change that interrupts the cohesiveness of the established community)	No Impact	No mitigation required	No Impact

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.10-2: The project would conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation required	Less than significant
Cumulative – Land Use & Planning	Less than significant	No mitigation required	Less than significant

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.11 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 residents of the state.	Potentially significant	<p>MM 4.11-1: As recommended by the California Department of Conservation, Geologic Energy Management Division during the 2007 Notice of Preparation comment period, no structure will be built over or in proximity to the abandoned well location that is located within the project area. A 10-foot-no-build radius will be established for the well area as it is shown on Figure 4.11-1, <i>Oil and Gas Map</i>, in Chapter 4.11, Mineral Resources in the SEIR.</p> <p>MM 4.11-2: If any previously unknown oil, gas or injection wells are discovered, work in the area of discovery shall be stopped and the California Department of Conservation, Geologic Energy Management Division shall be contacted by the project proponent to obtain information on the requirements of, and approval to perform, remedial operations implemented prior to resumption of work in the area of discovery. If a structure is to be built within 10 feet of a newly discovered well, the well will be exposed for inspection and leakage testing prior to construction. While exposed, the location will be ascertained by a licensed surveyor in NAD 27 Continental US coordinates.</p>	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	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.	Potentially significant	Implement MM 4.11-1 through MM 4.11-2	Less than significant with mitigation
Cumulative – Mineral Resources	Potentially significant	Implement MM 4.11-1 through MM 4.11-2	Less than significant with mitigation
4.12 Noise			
Impact 4.12-1: The project would cause generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.	Less than significant	No mitigation required	Less than significant
Impact 4.12-2: The project would cause generation of excessive ground borne vibration or ground borne noise levels.	Less than significant	No mitigation required	Less than significant
Impact 4.12-3: The project would cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	No mitigation required	Less than significant
Impact 4.12-4: 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.	No Impact	No mitigation required	No Impact
Cumulative – Noise	Less than significant	No mitigation required	Less than significant
4.13 Utilities & Service Systems			
Impact 4.13-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications	Less than significant	No mitigation required	Less than significant

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
facilities, the construction or relocation of which could cause significant environmental effects.			
Impact 4.13-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Potentially significant	MM 4.13-1: Prior to issuance of building permits, the project proponent shall provide evidence of the following to the Kern County Planning and Natural Resources Department: <ul style="list-style-type: none"> a. The project proponent shall consult with the Kern County Environmental Health Services Division to confirm status and locations of onsite water wells intended for use during construction or operation of the project. The project proponent shall comply with all regulations and requirements as determined necessary to use, maintain, or improve active wells; including but not limited to any set-back requirements deemed necessary by the County. b. Prior to issuance of grading or building permits, the project proponent shall obtain reactivated well permits from the Kern County Environmental Health Services Division for those wells that will be used to monitor groundwater and provide water supply to the project. Copies of the issued permits for the reactivated well shall be submitted to the Kern County Planning and Natural Resources Department. 	Less than significant with mitigation
Impact 4.13-3: The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	No Impact	No mitigation required	No Impact

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.13-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Less than significant	No mitigation required	Less than significant
Impact 4.13-5: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.	Less than significant	No mitigation required	Less than significant
Cumulative – Utilities & Service Systems	Potentially significant	Implement MM 4.13-1	Less than significant with mitigation
4.14 Transportation & Traffic			
Impact 4.14-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less than significant	No mitigation required	Less than significant
Impact 4.14-2: The project would conflict or be inconsistent with CEQA Guidelines §15064.3(b).	Less than significant	No mitigation required	Less than significant
Impact 4.14-3: The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment).	Less than significant	No mitigation required	Less than significant
Impact 4.14-4: The project would result in inadequate emergency access.	Less than significant	No mitigation required	Less than significant
Cumulative – Transportation & Traffic	Less than significant	No mitigation required	Less than significant

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.15 Tribal Cultural Resources			
Impact 4.15-1a: 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 resource defined in PRC Section 5020.1(k).	Less than Significant	Implement Mitigation Measures MM 4.6-1 through MM 4.6-3	Less than significant with mitigation
Impact 4.15-1b: 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.	Less than Significant	Implement Mitigation Measures MM 4.6-1 through MM 4.6-3	Less than significant with mitigation
Cumulative – Tribal Cultural Resources	Less than Significant	Implement Mitigation Measures MM 4.6-1 through MM 4.6-3	Less than significant with mitigation
4.16 Energy			
Impact 4.16-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Potentially Significant	Implement MM 4.3-1	Less than significant with mitigation

Table 1-6: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.16-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation required	Less than significant
Cumulative – Energy	Potentially Significant	Implement MM 4.3-1	Less than significant with mitigation
4.17 Wildfire			
Impact 4.17-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	No Impact	No mitigation required	No Impact
Impact 4.17-2: The project would cause 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.	No Impact	No mitigation required	No Impact
Impact 4.17-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	No Impact	No mitigation required	No Impact
Impact 4.17-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.	No Impact	No mitigation required	No Impact
Cumulative – Wildfire	No Impact	No mitigation required	No Impact

2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department, as Lead Agency, has determined that a Supplemental Environmental Impact Report (SEIR) must be prepared for the proposed Shafter-Wasco Compost and Waste Diversion Project (project). The Shafter-Wasco Sanitary Landfill Permit Revision Project EIR (SCH #2004111015) was certified by the Kern County Board of Supervisors on September 29, 2009 with amendments to Kern County General Plan (KCGP), GPA No. 8, Map 78; modifications to CUP No. 1, Map No. 78; removal of project parcels from Agricultural Preserve No. 8; and revisions to permit requirements from State and regional agencies. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. The 2009 EIR is attached to this SEIR as Appendix B. Mitigation measures from the 2009 EIR are incorporated into the proposed project and a Mitigation Measure Monitoring Program has been updated to include them.

This proposed project includes a request for land use entitlements and associated solid waste facility permits necessary to facilitate the operation of an expanded compost facility and self-haul recycling operation; an increase to the permitted facility boundary of the landfill; and an increase to the hours for the receipt of refuse/waste and facility operating hours. The proposed project is described in detail in this SEIR, Chapter 3, *Project Description*.

The project is proposing modifications to existing landfill and diversion operations to include the following: (1) construction and operation of a covered aerated static pile forced aeration composting system conforming with best available control technology in the existing diversion area; (2) composting of approved feedstocks consistent with CalRecycle definitions; (3) enhancement to existing diversion activities by providing additional self-haul transfer and processing activities in the existing diversion area; (4) increase to the permitted hours for the receipt of waste to 7:00 a.m. to 7:00 p.m., seven days per week; (5) an increase in Ancillary and Facility Operating Hours to 24-hours a day, seven days per week; and (6) addition of approximately 50.21 acres into the solid waste facility permit and land use permits as permitted facility boundary and solid waste disposal facility buffer.

This SEIR has been prepared pursuant to the following:

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

The overall purposes of the CEQA process are to:

- Ensure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns;
- Provide for full disclosure of the project’s environmental effects to the public, the agency decisionmakers who will approve or deny the project, and responsible and trustee agencies charged with managing resources that may be affected by the project; and

- Provide a forum for public participation in the decision-making process with respect to environmental effects.

2.2 Purpose of this Supplemental Environmental Impact Report

Project History

The Shafter-Wasco Sanitary Landfill Permit Revision Project EIR (SCH #2004111015) was certified by the Kern County Board of Supervisors on September 29, 2009 and included the following actions for the Shafter-Wasco RSLF – amendment to the Kern County General Plan, amendment to the Appendix E General Plan Map; a CUP modification; petition to exclude the landfill and additional acreage owned by the County from Agricultural Preserve No. 8; revision to the solid waste facility permit and relocation and expansion of the diversion area; and issuance of revised Waste Discharge Requirements.

In 2019, the project applicant submitted applications to the Kern County Planning and Natural Resources Department for a General Plan Amendment and Conditional Use Permit modification to allow for the construction and operation of a 100,000 tons per year composting facility and enhancements to existing diversion activities by providing additional self-haul processing activities. The Kern County Planning and Natural Resources Department, as lead agency (per *CEQA Guidelines* Section 15051), has determined that a SEIR must be prepared for the proposed project pursuant to Sections 15162 and 15163 of the *CEQA Guidelines*.

Purpose of a Supplemental EIR

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

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

As described in Section 2.2, *Project History* above, the Shafter-Wasco Sanitary Landfill Permit Revision Project EIR was certified on September 29, 2009. Pursuant to *CEQA Guidelines* Section 15163, a supplement to an EIR is intended to update the previous EIR and need contain only the information necessary to make the previous EIR adequate for the project as revised. *CEQA Guidelines* Sections 15162 and 15163 allow a supplement to an EIR to be prepared when:

- substantial changes are proposed in the project; and/or

- substantial changes occur with respect to the circumstances under which the project is being undertaken; and/or
- new information, which was not known and could not have been known at the time the EIR was certified as completed, becomes available; and
- only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

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

CEQA requires that a SEIR reflect the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft SEIR 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 SEIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

Reviewers of a Draft SEIR 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.

Issues to Be Resolved

Section 15123(b)(3) of the *CEQA Guidelines* requires that an SEIR contain issues to be resolved, which includes the choices among alternatives and whether or how to mitigate significant effects. The major issues to be resolved regarding the project include decisions by the lead agency as to whether or not:

- The SEIR adequately describes the environmental impacts of the project;
- An alternative should be chosen;
- The recommended mitigation measures should be adopted or modified; and
- Additional mitigation measures need to be applied to the proposed project.

2.3 Terminology

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

- *Project* means the whole of an action that has the potential for resulting in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

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

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

- *Less than significant.* An impact that is adverse but that does not exceed the defined thresholds of significance. Less than significant impacts do not require mitigation.

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

2.4 Decision-Making Process

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

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

- **Notice of Preparation (NOP).** Per Section 15103 of the *CEQA Guidelines*, Kern County prepared and circulated a NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on June 5, 2020 and ending on July 6, 2020. The supplemental NOP and all comment letters are provided in Appendix A of this SEIR.
- **Scoping Meeting.** In conjunction with this public notice, a scoping meeting, pursuant to Section 15206 of the *CEQA Guidelines* was held by the Lead Agency on June 26, 2020 to provide a forum for public and agency comments on the scope of the SEIR. The written scoping meeting comments are also provided in Appendix A of this SEIR. No verbal comments were provided at the meeting.
- **Draft SEIR Preparation.** The Draft SEIR is circulated for review and comment to appropriate agencies and additional individuals and interest groups who have requested to be notified of EIR projects. Per Section 15105 of the *CEQA Guidelines*, Kern County will provide for a 45-day public review period on the Draft SEIR. Kern County will subsequently respond to each comment on the Draft SEIR received in writing through a Response to Comments chapter in the Final SEIR. The Response to Comments will be provided to each agency or person who provided written comments on the SEIR a minimum of fourteen (14) days before the scheduled Planning Commission hearing on the Final SEIR and project.
- **Preparation and Certification of Final EIR.** The Kern County Planning Commission will consider the Final SEIR and the project, acting in an advisory capacity to the Kern County Board of Supervisors. Upon receipt of the Planning Commission's recommendation, the Board of Supervisors will also consider the Final SEIR, all public comments, and the project and take final action on the project. At least one public hearing will be held by both the Planning Commission and Board of Supervisors to consider the Final SEIR, take public testimony, and then approve, conditionally approve, or deny the project.

Notice of Preparation

Pursuant to Section 15082 of the *CEQA Guidelines*, as amended, the Lead Agency circulated a NOP to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period beginning June 5, 2020 and ending on July 6, 2020. The NOP was also posted in the Kern County Clerk's

office for 30 days and set to the State Clearinghouse at the Governor’s Office of Planning and Research to solicit Statewide agency participation in determining the scope of the SEIR.

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

Scoping Meeting

Pursuant to Section 15206 of the *CEQA Guidelines*, for projects of statewide, regional, or area-wide significance, the Lead Agency is required to conduct at least one scoping meeting. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. Kern County hosted a scoping meeting at 1:30 p.m. on June 26, 2020. In compliance with the Governor’s Executive Order, the California Department of Public Health’s guidelines on gatherings regarding COVID-19, and Kern County Local Emergency Declaration, the scoping meeting required by the CEQA Guidelines was conducted online at the Kern County Public Services Building, 2700 “M” Street, Conference Room 1C, Bakersfield, California.

Notice of Preparation and Scoping Meeting Results

No verbal comments were received at the June 26, 2020 scoping meeting. Specific environmental concerns raised in written comments received during the NOP public review period are discussed below. The NOP and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

NOP Written Comments

The following specific environmental concerns listed in **Table 2-1** were received in writing by the County in response to the NOP.

Table 2-1: Summary of NOP/IS Comments	
Commenter/Date	Summary of Comment
<i>Federal Agencies</i>	
<i>State Agencies</i>	
Native American Heritage Commission June 5, 2020	The commenter states that the project is subject to specific regulations and recommends preparation of the SEIR be in accordance and in compliance with Assembly Bill 52 and Senate Bill 18 as well as compliance with any other applicable laws.
California Department of Conservation, Geologic Energy Management Division June 15, 2020	The commenter provided information that the project is within the abandoned Garrison City Gas oil field administrative boundary. The commenter indicated one (1) known oil or gas wells located within the project boundary. If during development activities, any wells are encountered that were not part of the review, the property owner is expected to immediately notify the Division.

Table 2-1: Summary of NOP/IS Comments	
Commenter/Date	Summary of Comment
Department of Transportation, District 6 Office June 29, 2020	The commenter requests that if the applicant proposes any modifications to the project, such as changes to permitted tonnage or traffic volumes, the commenter will require a review of the new plans.
California Department of Resources Recycling and Recovery July 3, 2020	The commenter requests a revision to the existing Solid Waste Facility Permit and an amendment to the Joint Technical Document to include a Report of Composting Site Information and associated reports.
<i>Local</i>	
Kern County Department of Agriculture June 15, 2020	The commenter recommends the applicant determine if the applicant is required to have a Compliance Agreement in place with the Department for movement and receipt of green material in order to comply with quarantine zones for specific pests.
Kern County Public Health Department, Environmental Health Division June 26, 2020	The commenter requests the following conditions be placed on the project – 1) a revision to the current Solid Waste Facility Permit; and 2) an amendment to the Joint Technical Document.
Kern County Fire Department, Office of the Fire Marshal July 1, 2020	The commenter requested the applicant apply for an underground fire water protection plan with the Kern County Fire Department prior to approving the operation of the project.
Kern County Public Works Department, Floodplain Management Section June 10, 2020	The commenter states they have no comments or recommendations regarding the project.
San Joaquin Valley Air Pollution Control District July 7, 2020	The commenter offered the following comments – 1) calculate construction and operation emissions and consider feasibility of mitigation of air quality impacts; 2) recommendation to consider a Voluntary Emission Reduction Agreement; 3) conduct a Health Risk Assessment; 4) complete an Ambient Air Quality Analysis; 5) consider nuisance odors; and 6) provided a list of applicable rules and regulations for project compliance.
<i>Interested Parties</i>	
Pacific Gas & Electric June 15, 2020	The commenter stated that that if proposed project is adjacent/or within PG&E owned property and/or easements, the commenter will be working with the Applicant to ensure compatible uses and activities near PG&E facilities.
Southern California Gas July 1, 2020	The commenter stated the Transmission Department of SoCalGas does not operate any facilities within the proposed project area.

Availability of the Draft Supplemental EIR

This SEIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with Sections 15163(c) and 15087 of the *CEQA Guidelines*. This SEIR and the full administrative record for the project, including all studies, is

available for review on the Kern County Planning and Natural Resources Department website: <https://kernplanning.com/planning/environmental-documents/>. The document can also be reviewed at the Kern County Planning and Natural Resources Department, 2700 “M” Street, Suite 100, Bakersfield, CA 93301, by appointment only. For appointment call our Counter Operations Desk at (661) 862-8927.

2.5 Format and Content

This SEIR addresses the potential environmental effects of the project and was prepared following input from the public and responsible and affected agencies and through the SEIR scoping process, as discussed previously. The contents of this SEIR were based on the findings in the NOP, the previously certified 2009 EIR, public and agency input, and scoping meeting comments. Based on these findings, a determination was made that an SEIR was required to address potentially significant environmental effects on the following resources:

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

With respect to the following resources areas, which were discussed in the NOP, it was determined that no impacts would occur that would require analysis in this SEIR. It was determined the project is not likely to result in significant environmental effects to the following resources and would not substantially increase an impact already addressed in the previously certified 2009 EIR and previously circulated 2007 NOP.

- Population and Housing
- Public Services
- Recreation

The NOP determined that because the project site is already supported by public services including Fire and Sheriff’s services, the expansion of the composting and waste diversion would not cause additional staffing to support the project, and therefore no impact to Public Services.

The NOP also determined that because the facility has been in operation since 1993 and has been significantly disturbed, there would be no increase in population and housing needs or recreation use, and therefore no impact to Population, Housing, and Recreation.

Additionally, no public comments were received during circulation of the supplemental NOP and scoping meeting that addressed any of these resource areas, indicating that the Lead Agency's determination of no impact to those identified resources was appropriate. No further discussion of these topics is warranted in the SEIR.

Required Supplemental EIR Content and Organization

This SEIR includes all the sections required by CEQA and pursuant to *CEQA Guidelines* 15163. **Table 2-2** contains a list of sections required under CEQA, along with a reference to the chapter in which they can be found in this SEIR document.

Table 2-2: Required SEIR Contents	
Requirement (CEQA Guidelines Section)	Location in SEIR
Table of contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Project description (Section 15124)	Chapter 3
Environmental setting (Section 15125)	Chapter 4, Sections 4.1–4.17
Significant environmental impacts (Section 15126.2)	Chapter 4, Sections 4.1–4.17
Mitigation measures (Section 15126.4)	Chapter 4, Sections 4.1–4.17
Cumulative impacts (Section 15130)	Chapter 4, Sections 4.1–4.17
Growth-inducing impacts (Section 15126.2)	Chapter 5
Significant irreversible changes (Section 15126.2)	Chapter 5
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1 & 5; Sections 4.1–4.17
Alternatives to the project (Section 15126.6)	Chapter 6
List of preparers (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10

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

- Chapter 1, *Executive Summary*, provides a summary of the project description and a summary of the environmental impacts and mitigation measures.
- Chapter 2, *Introduction*, provides CEQA compliance information, an overview of the decision-making process, organization of the EIR, and a responsible and trustee agency list.
- Chapter 3, *Project Description*, provides a description of the location, characteristics, objectives of the projects, and the relationship of the project to other plans and policies associated with the project.

- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, project impacts, mitigation measures, and unavoidable adverse impacts.
- Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's cumulative and growth-inducing impacts and other CEQA requirements, including significant and unavoidable impacts and irreversible commitment of resources.
- Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the projects that could reduce the significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on this SEIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this SEIR.
- Chapter 9, *Preparers*, identifies persons involved in the preparation of this SEIR.
- Chapter 10, *Bibliography*, identifies reference sources for the SEIR.
- *Appendices* provide information and technical studies that support the environmental analysis contained within the SEIR.

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

- “Introduction” provides a brief overview on the purpose of the section being analyzed with regards to the project.
- “Environmental Setting” describes the physical conditions that exist at this time and that may influence or affect the topic being analyzed. The Environmental Setting sections serve to update the environmental setting for each issue area to address changes to the environmental setting since certification of the 2009 EIR.
- “Regulatory Setting” provides State and federal laws and the Kern County General Plan goals, policies, and implementation measures that apply to the topic being analyzed. The Regulatory Setting sections serve to update the environmental setting for each issue area to address changes to the regulatory setting since certification of the 2009 EIR.
- “Impacts and Mitigation Measures” discusses the impacts of the projects in each category, presents the determination of the level of significance, and provides a discussion of feasible mitigation measures to reduce any impacts.
- “Cumulative Setting, Impacts, and Mitigation Measures” provides a discussion of the cumulative geographic area for each resource area, and analysis of whether the project would contribute to a significant cumulative impact, and if so, identifies cumulative mitigation measures.

2.6 Responsible and Trustee Agencies

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

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

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

State Agencies

- Central Valley Regional Water Quality Control Board (RWQCB)
- California Department of Resources Recycling and Recovery (CalRecycle)
- California Department of Toxic Substances (DTSC)
- California Air Resources Board (ARB)
- California Native American Heritage Commission (NAHC)

Kern County

- Kern County Board of Supervisors
- Kern County Public Health
- Kern County Fire Department
- Kern County Planning & Natural Resources
- Kern County Agriculture Department

Local Agencies

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

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

2.7 Incorporation by Reference

In accordance with Section 15150 of the *CEQA Guidelines* to reduce the size of the report, the following documents are hereby incorporated by reference into this SEIR 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.

Shafter-Wasco Sanitary Landfill Permit Revision Project EIR

As described in Section 2.2, the Lead Agency prepared an EIR for the project in 2009. These documents evaluated potential environmental impacts related to implementation of the proposed 2009 Project. This 2009 document is referenced as “2009 EIR” throughout the analysis presented in this SEIR and is also included as Appendix B.

Kern County General Plan

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

Kern County Zoning Ordinance

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

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

Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan (ALUCP) was originally adopted in 1996 and has since been amended to comply with Aeronautics Law, Public Utilities Code (Chapter 4, Article 3.5)

regarding public airports and surrounding land use planning. As required by that law, proposals for public or private land use developments that occur within defined airport influence areas are subject to compatibility review. The principal airport land use compatibility concerns addressed by the plan are: (1) exposure to aircraft noise, (2) land use safety with respect to both people and property on the ground and the occupants of aircraft, (3) protection of airport air space, and (4) general concerns related to aircraft overflights.

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

2.8 Sources

This SEIR is dependent upon information from many sources. Some sources are studies or reports that have been prepared specifically for the project. Other sources provide background information related to one or more resource areas that are discussed in this document. The sources and references used in the preparation of this SEIR are listed in Chapter 10, *Bibliography*, and are available for review on the Kern County Planning and Natural Resources Department website: <https://kernplanning.com/planning/environmental-documents/>.

3.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR was previously certified for the Shafter-Wasco Sanitary Landfill Permit Revision Project EIR (SCH #2004111015) was certified by the Kern County Board of Supervisors on September 29, 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. Mitigation measures from the 2009 EIR are incorporated into the proposed Project. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

This SEIR has been prepared by Kern County Public Works Department in conjunction with Kern County Planning and Natural Resources Department as Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the proposed Shafter-Wasco Compost and Waste Diversion Project (Project). Along with the request for land use entitlements are the associated solid waste facility permits necessary to facilitate the operation of a compost facility and self-haul recycling operation; an increase to the permitted facility boundary of the landfill; and an increase to the hours for the receipt of refuse/waste and facility operating hours.

This SEIR has been prepared to identify and evaluate environmental impacts associated with implementation of the proposed project by the Applicant. The project is proposing modifications to existing landfill and diversion operations to include the following: (1) construction and operation of a covered aerated static pile forced aeration composting system with best available control technology in the existing diversion area; (2) composting approved feedstocks consistent with CalRecycle definitions; (3) enhancement to existing diversion activities by providing additional self-haul transfer and processing activities in the existing diversion area; (4) increase to the permitted hours for the receipt of waste to 7:00 a.m. to 7:00 p.m., seven days per week; (5) an increase in ancillary and facility operating hours to 24-hours a day, seven days per week; and (6) addition of 50.21 acres into the solid waste facility permit and land use permits as permitted facility boundary and solid waste disposal facility buffer.

Implementation of the project as proposed would require: a) Amendment to the Kern County General Plan (KCGP) to change a portion of the existing Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation, for 20 acres of the existing project site for a 100,000 ton per year compost facility); b) change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone; c) amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas; d) modification of the existing Conditional Use Permit (CUP No. 1, Map 78) to: a) Increase permitted facility area to include buffer area; b) designate 20 acres for a 100,000 ton/year compost facility; c) establish a finished compost storage time limit of 180 days to accommodate seasonal markets; d) integrate enhanced self-haul recycling operations into existing waste diversion operations; e) increase hours for the receipt of waste; f) increase facility operating hours.

In addition, this SEIR, once certified by the Kern County Board of Directors, will be used by Kern County Public Health Services Department – Environmental Health Division, with concurrence by the California Department of Resources Recycling and Recovery (CalRecycle), to: a) increase size of the permitted facility to include buffer area; b) increase composting design capacity; c) increase hours for the receipt of waste; d) increase facility hours of operation.

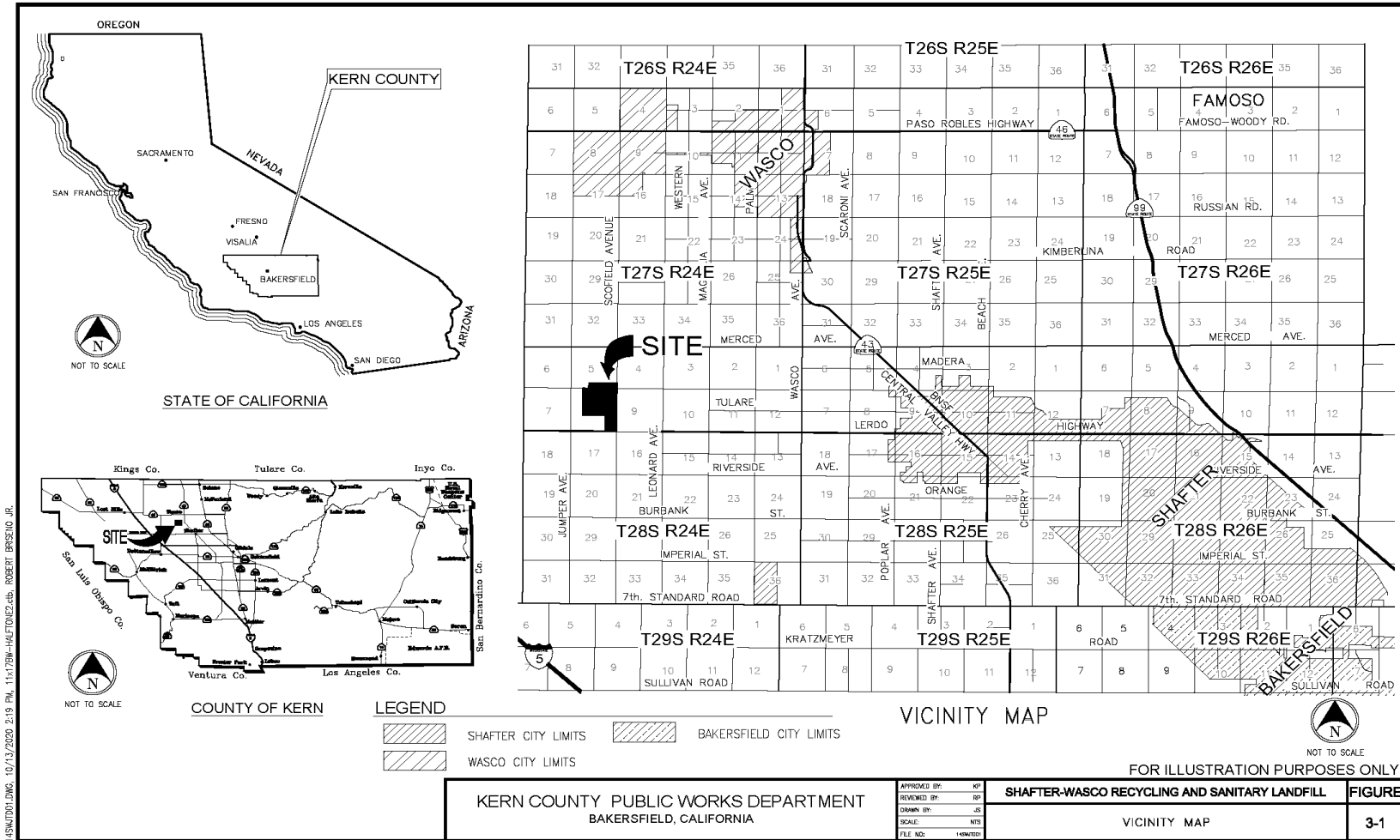
The Kern County Public Works Department will apply for revised or new Waste Discharge Requirements Order (WDRs) from the California Regional Water Quality Control Board – Central Valley Region for composting operations to operate a 100,000 tons per year Tier II designed compost facility, and application for a Request for Authority to Construct and Permit to Operate from San Joaquin Valley Air Pollution Control District, to operate a composting facility under Rule 4565 and Rule 4566.

The proposed project does not propose an increase in maximum tonnage, traffic volumes, refuse footprint, or landfill design capacity beyond what is currently permitted. The estimated closure date is being updated to reflect current disposal projections, waste settlement, regional growth rates, enhanced diversion programs, and fluctuations in incoming tonnages; the updated estimated closure date is not due to a design capacity expansion.

Since certification of the 2009 EIR, the California State Legislature has passed numerous statutes (Assembly Bills 341, 1594, 1826, and Senate Bill 1383) requiring the reduction of methane emissions resulting from landfill operations and the removal of organic materials from the disposal waste stream. As a result, the Project proponent has evaluated existing solid waste management services and determined additional programs will require implementation at the Shafter-Wasco Recycling and Sanitary Landfill (RSLF) to meet State mandates.

3.2 Project Location

The proposed project is in the unincorporated area of western Kern County, California as shown in Figure 3-1, *Vicinity Map*. The proposed Project is sited within the existing 407.69-acre Shafter-Wasco RSLF at 17621 Scofield Avenue, Shafter, CA 93263. The Shafter-Wasco RSLF is accessible from Scofield Avenue, one mile north of Lerdo Highway.



The Shafter-Wasco RSLF is an existing class III municipal solid waste landfill owned by the County of Kern and operated by the Kern County Public Works Department. The project site is identified as Assessor's Parcel Numbers (APNs) 088-100-38, 088-100-40, and 088-100-08, situated in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M) as shown in Figure 3-2, *Assessor's Parcel Number Map*, in this SEIR. The project site is bordered to the north, south, east, and west by agricultural lands.

Table 3-1, *Site Location and Project Acreage*, below, illustrates the actual parcels being used for the existing and expansion project, as well as the existing zoning and the general plan designations, and how those designations would change from the agricultural to waste management uses needed to gain approval for the proposed project.

Table 3-1, Site Location and Project Acreage						
Parcel Number	Acres	Proposed Acres Change	Land Use	Existing General Plan Map Code	Proposed General Plan Map Code	Zoning
088-100-38	250.42					
	160.61		Solid Waste Disposal Facility	3.4	No change	A
	89.81	69.81	Solid Waste Disposal Facility Buffer	3.4.1	No change	A
	0	20.00	Other Waste Facilities (Composting)	3.4.1	3.7	A
088-100-40	80.00		Solid Waste Disposal Facility Buffer	3.4.1	No change	A
088-100-08	77.27	50.27	Solid Waste Disposal Facility Buffer; Intensive Agriculture	3.4.1 (20 acres), 8.1 (50.27 acres)	3.4.1	A
Total	407.69					



3.3 Project Objectives

CEQA requires a statement of project objectives (Section 15124(b) of the *CEQA Guidelines*). The proposed project would expand hours for the receipt of waste and ancillary/facility hours of operations of an existing Class III municipal solid waste landfill and allow for the operation of a covered aerated static pile composting system and facility, which would assist the State of California and Kern County in complying with the California's numerous statutes (Assembly Bills 341, 1594, 1826, and Senate Bill 1383) requiring the reduction of methane emissions resulting from landfill operations and the removal of organic materials from the disposal waste stream. The specific objectives for the proposed project, as identified by the project proponent, are as follows:

- Assist state and local governments (incorporated cities in Kern County) in complying with California's mandate of reducing greenhouse gas emissions by diverting organic waste from being disposed of in landfills;
- Facilitate CalRecycle's statewide diversion goal of 75 percent recycling, composting, or source reduction of materials by 2025 established under SB 1383 by targeting agricultural material, food material, vegetative food material, manure, and other compostable, organic, and recyclable materials;
- Implement an organic waste recycling program to divert organic waste consistent with the requirement of AB 1826, Mandatory Commercial Organics Recycling, which requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week;
- Assist in requirement of AB 32 (California Global Warming Solutions Act of 2006) to reduce GHG emissions to 1990 levels by 2020. In 2016, Legislature passed SB 32 and AB 197, which requires a 2030 GHG emissions reduction target of 40 percent below 1990 levels;
- Construct and operate an efficient and cost-effective regional covered aerated static pile composting facility to accommodate the current and future needs of local municipal, commercial, business, and residential sources by diverting organic waste from landfills to reduce volatile organic compound and greenhouse gas emissions resulting from landfill operations;
- Reduce outbound traffic volume of raw organic waste to off-site regional facilities, utilizing existing County-owned lands and existing local infrastructure to compost locally sourced organic waste;
- Utilize portions of an existing County-owned and operated landfill for a composting facility and self-haul recycling operations to preserve prime farmland and minimize environmental impacts;
- Manufacture high quality compost for use in sustainable agricultural practices, community garden and beautification projects, residential use, and other beneficial end uses;
- Offer effective and enhanced solid waste disposal and diversion services to the residents of Kern County by providing additional hours for disposal and diversion; and
- Increase buffer area around the landfill and allow the inclusion of uses within the buffer area ancillary to landfill operations, as required by the policies and implementation measures of the Kern County General Plan.

3.4 Environmental Setting

Regional Setting

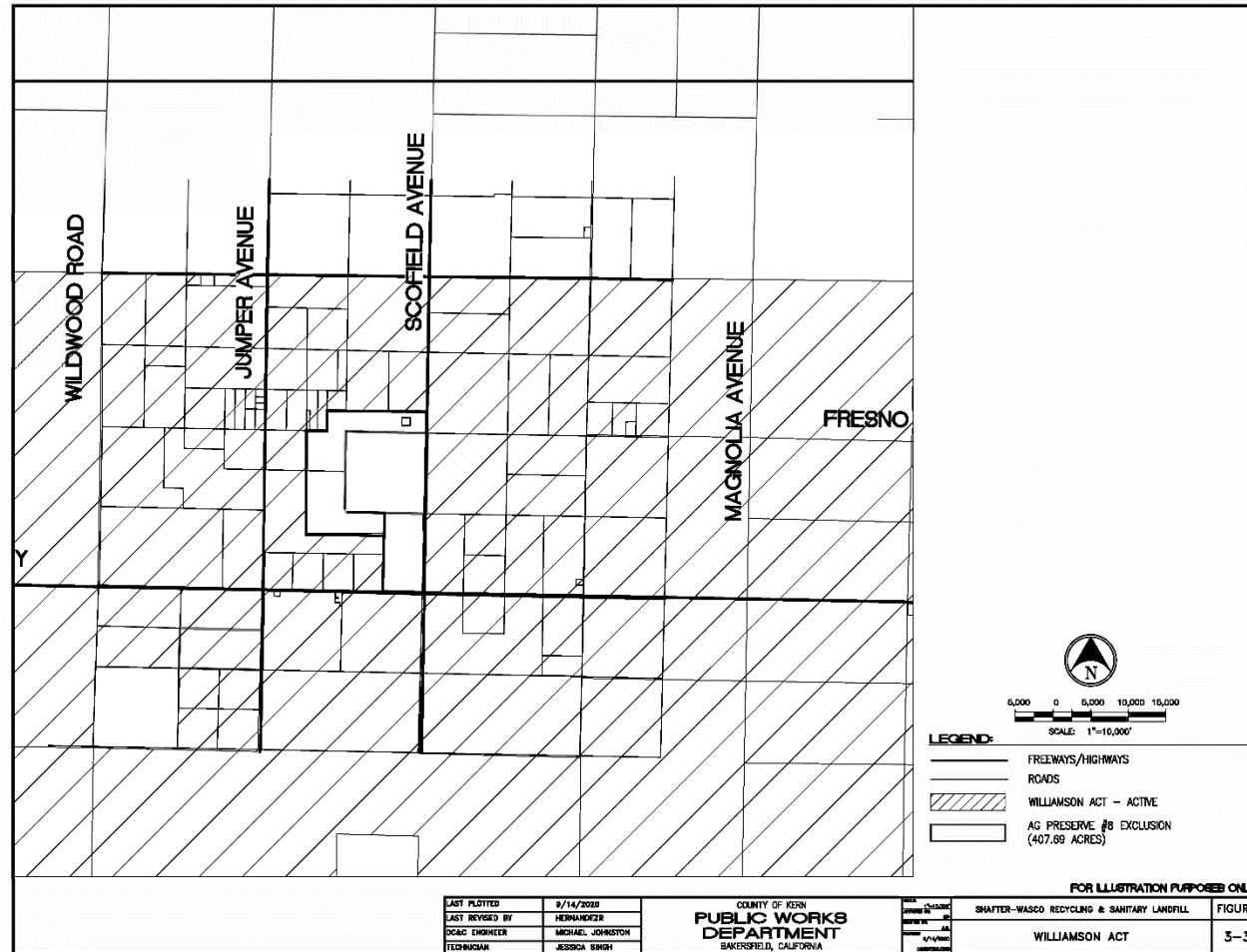
The Project is in the unincorporated area of western Kern County, California as shown in (**Figure 3-1, Site Vicinity Map**), above in this SEIR, and situated in the southern San Joaquin Valley. The proposed project is sited within the existing 407.69-acre Shafter-Wasco RSLF at 17621 Scofield Avenue, Shafter, CA 93263. The Shafter-Wasco RSLF is accessible from Scofield Avenue, one mile north of Lerdo Highway.

The proposed project site is identified as APNs 088-100-38, 088-100-40, and 088-100-08, situated in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M). The project site is bordered to the north, south, east, and west by agricultural lands.

Local Setting and Surrounding Land Uses

The proposed project site is currently permitted and operational and is comprised of the extensively disturbed landfill and landfill buffer areas which have been in continuous operation since July 1972 and recently being permitted via a conditional use permit in 2009. Other than the landfill, the visual setting of the region is predominantly flat land and farms. Topographically, the area surrounding the landfill is generally flat. Pre-landfill surface elevations immediately adjacent to the site area ranged from 294 feet above mean sea level (AMSL) to 301 feet AMSL. The pre-landfill elevations ranged from 280 feet AMSL to 310 feet AMSL. The top of the existing fill surface is currently above natural grade at 384 feet AMSL.

Agriculture is the predominant land use surrounding the site. Other land uses within a one-mile radius include orchards, irrigated land, a cotton gin, residential, commercial, and farm dwellings. The nearest dwelling, not existing on County owned land is one-half (1/2) mile west of the site. Surrounding properties within an approximate two-mile radius are currently used for agricultural cultivation except for four dairies. Future land use in the area is projected to remain similar to existing land use. The existing landfill is compatible with adjacent farmland and vice-versa. All non-County owned parcels immediately adjacent to the project site are designated as Prime Farmland and are under active Williamson Act contracts which encourages continued compatible agricultural land use. However, the County owned project area is not under an active Williamson Act contract (**Figure 3-3, Williamson Act Map**), in this SEIR. County owned parcels within the project area are designated by the Department of Conservation as Vacant or Disturbed Land (north-east buffer), Grazing Land (north-west buffer), Urban and Built-Up Land (landfill), Prime Farmland (southern buffer), and Farmland of Statewide Importance (southernmost area of southern buffer) (**Figure 3-4, Department of Conservation Farmland Mapping Designations Map**), in this SEIR.





The project site within the existing Shafter-Wasco RSLF is amidst intensely cultivated fields and is not a part of a wildlife migratory corridor. The site has been utilized by landfill operations, access roads, environmental monitoring wells, diversion activities, drainage features, and agricultural farming. Vegetation is dominated by common salt brush; conspicuous plants also include non-native red brome, Arabian grass, mustards, riggut brome, and Russian thistle.

The nearest mapped active faults (during the Holocene period) to the site are the Kern Front and Buena Vista Faults, located 19 miles east and 24 miles south of the site, respectively. The San Andreas Fault is located 28 miles west of the site. No known or mapped faults trend towards or beneath the project site. The site is located within the administrative boundaries of the abandoned Garrison City Gas Field. There are no oil or gas wells on the project site. An abandoned oil pipeline crosses underneath the northern landfill buffer area that includes the diversion area operation and proposed composting area.

Water bearing zones beneath the site consist of confined, unconfined and perched aquifers. In September 2018, the unconfined groundwater surface was measured in the landfill water well at a depth of 342 feet below grade surface. Current depth to the highest perched aquifer is approximately 70 to 85 feet below grade surface, and the predominant flow direction is to the east-northeast. The landfill groundwater monitoring system consists of background wells, compliance wells, evaluation monitoring program wells, and pan lysimeters. Current groundwater quality data confirms the continued presence of several volatile organic compounds (VOC) in the perched groundwater, with the highest concentrations occurring in samples from those wells nearest the unlined waste module, Module 1. The leachate collection recovery system is functioning for Modules 2 and 3.

The project area does not appear archaeologically or culturally resource sensitive and there are no historical landmarks in the area. The predominant soil type at the site is Milham sandy loam. The project area is outside of the 100-year floodplain. The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan. The nearest public airports are the Wasco Airport (10 miles northeast) and Minter Field Airport (13.8 miles east). The site is outside the planning spheres of influence for the Cities of Shafter and Wasco and outside the Metropolitan Bakersfield area.

Public facilities are not available due to the rural location of the project. The Shafter-Wasco RSLF is not located near an existing or planned recreational facility. The proposed project site would be served by the Kern County Sheriff's Office for law enforcement and public safety; the Kern County Fire Department for fire protection; and Kern County Emergency Medical Services for medical care services. The proposed project site is in a quiet noise environment. Agricultural equipment, crop dusters, and road traffic on Scofield Avenue are the sources of off-site noise.

3.5 Land Use and Zoning

Kern County General Plan

The project site is located within the administrative boundary of Kern County and is therefore subject to the Kern County General Plan (KCGP). As shown in **Figure 3-5, Current Kern County General Plan Designations & Zoning Districts**, in this SEIR, the project site is currently designated as 3.4 (Solid Waste Disposal Facility), 3.4.1 (Solid Waste Disposal Facility Buffer), and 8.1 (Intensive Agriculture). Land use surrounding the project site is currently designated as 8.1 (Intensive Agriculture). **Table 3-2, Existing**

Project Site and Surrounding Land Uses, Existing General Plan Map Code Designations and Zoning, in this SEIR, identifies the project site and surrounding land uses.

According to the KCGP the Solid Waste Disposal facility (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. Land use Designation 3.4.1 (Solid Waste Disposal Facility Buffer) 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. Intensive Agriculture (8.1) land use designation applies to areas devoted to the production of irrigated crops or having a potential for such use. Other agricultural uses, while not directly dependent on irrigation for production, may also be consistent with the Intensive Agriculture designation, with a minimum parcel size of 20 acres gross.

The proposed project would require the following land use related discretionary approvals:

- Approval of General Plan Amendment from Map Code 3.4.1 (Solid Waste Facility Buffer) to Map Code 3.7 (Other Waste Facilities) for 20 acres on parcel APN: 088-100-38;
- Approval of General Plan Amendment from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres on a portion of parcel APN: 088-100-08;
- Approval of modifications to CUP 27, Map 143 for modified landfill boundary, modified landfill operations, and compost facility operations on parcels APN: 088-100-40, 088-100-38, and 088-100-08;
- Amendment to KCGP Appendix E Map “Shafter-Wasco RSLF” to show revised permitted facility with designated buffer and compost areas

Table 3-2: Existing Project Site and Surrounding Land Uses, Existing General Plan Map Code Designations and Zoning			
Direction from Project Site	Existing Land Use	Existing Map Code Designation	Existing Zoning Classifications
Existing Project Site	Landfill Disposal, Diversion, and Landfill Buffer	3.4 (Solid Waste Disposal Facility); 3.4.1 (Solid Waste Disposal Facility Buffer); 8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
North	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
East	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
South	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
West	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)

Kern County Zoning Ordinance

The project site is subject to the provisions of the Kern County Zoning Ordinance. As shown in **Table 3-2, Existing Project Site and Surrounding Land Uses, Existing General Plan Map Code Designations and Zoning** and **Figure 3-5, (Current Kern County General Plan Designations & Zoning Districts)**, in this SEIR, the Kern County Zoning Ordinance designates the project site as being within the A (Exclusive Agriculture) Zone District. Composting facilities may operate within an Exclusive Agriculture Zone District only with an approved CUP. The proposed project would not require any amendment to the Zoning Code or change to the Zone District of the project site.

Kern County Airport Land Use Compatibility Plan

The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The nearest public airports are the Wasco Airport (10 miles northeast) and Minter Field Airport (13.8 miles east).



3.6 Project Site Conditions

Existing Site Conditions and Permitted Operations

The Shafter-Wasco RSLF is an active public Class III municipal solid waste disposal facility, owned by the County of Kern and operated by the Public Works Department since July 1972, that serves an area of 2,075 square miles, including the cities of Shafter, Wasco, Delano, McFarland, Bakersfield (northwest region) and the unincorporated communities of Glennville, Lost Hills, and Buttonwillow. The landfill services the residential, commercial, and agricultural waste and recycling needs of the County of Kern. Current operations receive waste from Public Works Department owned and operated transfer stations, including but not limited to, Buttonwillow, Glennville, McFarland-Delano, and Roberts Lane.

Landfill property was purchased from Stockdale Development Corporation on December 20, 1971. Prior to the County's acquisition of the property, the parcel was open space and used as a landing strip for a crop-dusting service. The landfill opened in July 1972. From 1999 to 2004, 247 acres of buffer lands were acquired around the landfill to preclude incompatible development adjacent to the landfill and for the installation of any required environmental monitoring and control systems, drainage improvements, soil borrow areas, storm water diversion facilities, and diversion activities.

Existing permits for the landfill include a Solid Waste Facility Permit (No. 15-AA-0057) issued February 29, 2016 by the Kern County Public Health Services Department – Environmental Health Division and concurred with by the Department of Resources Recycling and Recovery (CalRecycle); Waste Discharge Order No. R5-2012-0011 adopted February 2, 2012 by the California Regional Water Quality Control Board – Central Valley Region (Water Board); Title V Permit to Operate S-3431 issued by the San Joaquin Valley Air Pollution Control District (APCD); and CUP No. 1, Map 78 approved September 29, 2009 by the Kern County Board of Supervisors.

Current operations at the Shafter-Wasco RSLF are authorized by the actions and documents listed in **Table 3.3, *Approved Operations Documents***, below.

Table 3-3: Approved Operations Documents				
Date	Type of Environmental Document	Action	Description	Status
1992	Draft Environmental Impact Report (DEIR)	Increase to Operations	EIR for the SWSLF (SCH No. 1072058) was certified by the Board of Supervisors on October 19, 1992. The approved Project included: continued landfill operations, increased landfill tonnage from 775 tons per day to 888 tons per day, increased traffic limit to 388 vehicles per day (with additional 1.32 percent growth factor anticipated), allowing lateral and vertical expansion, including the construction of Subtitle “D” compliant line cells, on 135 acres of the 160-acre permitted facility boundary, and consideration of a transfer station option for when the landfill reaches capacity. The EIR identified significant impacts to Biological (incidental take), Air Quality (landfill gas (LFG) emissions, vehicular emissions, and landfill emissions), and Groundwater. Statements of Overriding Consideration were adopted pursuant to Section 15093.	Approved
March 4, 2002	Statutory Exemption	LLA 37-01	Lot Line Adjustment (Statutory Exemption) A Lot Line Adjustment (LLA) 37-01 was recorded on March 4, 2002. The LLA merged five parcels (088-030-27, 088-030-29, 088-040-08, 088-100-07 and 088-100-29) into one parcel (088-100-38). See map 3-6.	Approved
April 9, 2002	CEQA Categorical Exemption	Buffer Zone Basins	CEQA Categorical Exemption was filed to allow construction of two shallow drainage basins located north and west from the landfill in the buffer zone.	Approved
January 13, 2005	Negative Declaration	Amend SWFP #15-AA-0057 for the SWSLF	CEQA Negative Declaration (SCH No. 2004111015) was approved for the amendment of the Unincorporated Kern Non-Disposal Facility Element (NDFE) and to revise the SWFP (No.15-AA-0057) for the SWSLF. The NDFE Amendment provided for the expansion of the recycling programs being conducted at the facility. The Project allowed for an increase from 888 tons per day to 1,500 tons per day average/2,250 tons per day peak, and from peak traffic of 388 vehicles per day to 788	Approved

			vehicles per day. The current SWFP is dated March 22, 2005.	
October 1, 2007	Notice of Preparation (NOP)	Intent to Prepare a new EIR for Revision of SWSLF.	Notice of Preparation – The Kern County Waste Management Department circulated a Notice of Preparation (NOP) dated October 1, 2007 stating the Kern County Waste Management Department’s intention to prepare a new EIR for the permit revision of the SWSLF. The State Clearinghouse issued the same number, SCH No. 2004111015, for the Project as the 2005 Negative Declaration (see above).	No EIR completed
2008	Draft EIR	DEIR- revision of land use permit for SWSLF	This Draft Environmental Impact Report (DEIR) includes information necessary for the environmental evaluation of the revision of the SWFP and the land use permits for the SWSLF.	Not Finaled
September 29, 2009	Draft EIR	DEIR- revision of land use permit for SWSLF	This Draft Environmental Impact Report (DEIR) includes information necessary for the environmental evaluation of the revision of the SWFP and the land use permits for the SWSLF.	Approved

Approved Operations

The site is currently permitted to receive non-hazardous municipal solid waste, residential waste, commercial waste, agricultural waste, construction and demolition waste, non-friable asbestos, industrial waste, compostable materials, dead animals, and inert debris. The site currently receives several materials/wastes for diversion and recycling. A detailed list is provided below. Liquid, designated, special, and hazardous wastes are not permitted for acceptance. In 2019, the landfill received approximately 692 tons per day (TPD), with an average of 591 TPD of material being disposed and 101 TPD being diverted. The permitted maximum tonnage is 1,500 TPD for 300 days per calendar year with a maximum of 2,250 TPD for 15 days per quarter. The permitted traffic volume is 788 vehicles per day, with an average of 255 vehicles per day. Source of vehicle traffic includes franchise haulers, municipalities, residential self-haul, contractors, and all other waste related vehicle types. Hours for the receipt of waste and ancillary operating hours may occur seven days per week from 7:00 a.m. to 4:00 p.m. The estimated date the Shafter-Wasco RSLF will reach permitted capacity is March 2055 per the 2019 Kern County Public Works Department Capacity Study. The closure date is an estimate subject to annual review based upon such factors as fill rate, waste settlement, enhanced diversion programs, regional growth rates, fluctuations in incoming tonnages, and regulatory requirements and, therefore, is different than what was stated in the previously certified 2009 EIR.

The project applicant operates several diversion programs. Materials designated for diversion include waste tires, white goods, scrap metal, wood waste (branches and lumber), inerts (concrete, asphalt, etc.), grass, leaves, manure, food waste, vegetative food waste, universal waste (cathode ray tubes, electronic devices), used motor oil, used oil filters, municipal recyclable materials (cardboard, plastics, glass, etc.), drywall, and product stewardship items (mattresses, carpet, etc.). Depending upon existing approvals and material types,

materials are either stockpiled, loaded into trailers, or placed in roll-off bins. Storage, handling, and stockpiling activities for recyclable materials are conducted in a planned and controlled manner to minimize the risk of fire, health, and safety hazards, vector harborage, and public nuisances.

Activities that occur during hours for the receipt of waste include – waste acceptance; waste placement, spreading, and compaction; gatehouse transactions; load checking and screening; heavy equipment operation, movement of soils; access road construction; facility and equipment maintenance; operation of diversion programs; environmental monitoring; and all items presented below under ancillary and facility operations.

Activities that occur during ancillary and facility operating hours include – prescriptive cover placement; alternative daily cover placement and removal; facility and equipment maintenance; dust control activities; stockpile management; processing, loading, handling, and transporting of diversion materials; maintenance and operation of the compost facility; environmental monitoring system maintenance, installation, and monitoring; and other non-disposal related activities associated with the operation, maintenance, and monitoring of a solid waste disposal facility, compost facility, and diversion operation.

Current incoming organic feedstocks stockpiled, handled, processed, and transferred through the diversion area of the Shafter-Wasco RSLF include green material, food material, vegetative food material, organic waste, manure, and agricultural material. Organic feedstocks are stockpiled in individual designated areas and processed through various machinery to remove contamination (L3 Starscreen or trommel screeners) or processed for size reduction (chipping/grinding and tub grinder). Depending upon the material type and destination, material is then in turn placed back into a stockpile configuration and loaded at a later date for transport to an off-site regional composting facility, beneficially reused onsite, or another suitable end market. Materials may also be directly loaded for transport and removed from the site. Diverted organic materials are currently transported off site to Recology Blossom Valley Organics – South, City of Bakersfield’s Mount Vernon Recycling & Composting Facility, Liberty Composting Inc., Bakersfield Metropolitan (Bena) Sanitary Landfill, and Green Compass. Existing operations utilize, on average, twenty (20) large outbound vehicle trips per day and average a 35-mile one-way radius for hauling feedstocks to an end market.

Brush and yard trimmings are currently stockpiled, processed through a grinder, and then transported off site with small amounts of commingled grass and manure to a permitted composting facility.

Food material and vegetative food material is currently deposited on the existing concrete pad, covered with a green material (grass or wood chips) to control for liquid runoff and nuisances (vectors, odors, litter, wildlife, flies, etc), and then transported off site to a permitted composting facility.

Grass is currently deposited on the existing concrete pad, processed through an electrified star screen unit to remove contamination (plastics, glass, fabrics, etc), and then transported off site to a permitted composting facility.

Manure and agricultural material are currently deposited on concrete pad and consolidated into a vehicle with small amounts of grass and hay, and then transported off site to a permitted composting facility.

Self-haul vehicles entering the site are currently directed to the diversion area. Customers are directed to unload any targeted recyclable materials (as detailed above) into designated stockpiles. Dependent on the type of material being stockpiled and storage approvals in place from various regulatory agencies, materials may be stored between 30 and 180 days. Stockpiles and materials are stored in a manner to prevent public nuisances and vector harborage. After depositing materials, customers are sent to the active face to dispose

of their remaining load or waste is placed in a low-profile roll-off bin in the diversion area for transport to the active face for disposal. Large commingled or heavily contaminated commercial and residential loads are not handled or processed at the diversion area and are sent directly to the landfill for disposal.

Solid waste facility buffer is utilized consistent with the existing CUP and currently identified land use approvals which includes – borrow area; drainage facilities; landfill gas and groundwater monitoring; passive energy collection facilities, with prior written approval of the Director of the Kern County Planning & Natural Resources Department; construction and closure activities; drainage improvements and erosion controls; groundwater monitoring installations; landfill gas monitoring and extraction installations; areas required for landfill closure construction; leachate storage and extraction facilities; closure equipment staging facilities; Habitat Conservation Plan offsets; and buffer to prevent incompatible adjacent land uses. In addition to the above listed items, waste recycling and diversion activities and agricultural development under lease agreement are conducted in the solid waste facility buffer.

Various equipment is owned, operated, and maintained to conduct diversion and organic material handling and processing activities. The equipment inventory includes: L3 Star Screen or equivalent (screening of organic material); slow speed shredder (processing of organic material); stationary sorting line (screening of organic material); mobile loading dock (handling of various diversion materials); loaders (handling, loading, consolidation of various diversion materials); portable horizontal wood grinder (processing of wood waste); air curtain unit (processing of approved organic materials); baler (consolidation of cardboard or other recyclable materials); and other ancillary equipment needed for processing and handling of materials.

Existing Permitted Capacity

Based on the approved operations and the solid waste facility permit limits described above, the existing facility is permitted to accept 1,500 TPD for 300 days per calendar year with a maximum of 2,250 TPD for 15 days per quarter. The permitted design capacity of the Shafter-Wasco RSLF is 21,895,179 cubic yards, with a permitted maximum elevation of 440 feet above Mean Sea Level. The estimated date the Shafter-Wasco RSLF will reach permitted capacity is March 2055, per the 2019 Kern County Public Works Department Capacity Study. The proposed project does not propose a change to the landfill design capacity or refuse limit as a result this project. The estimated closure date is being updated to reflect current disposal projections, waste settlement, regional growth rates, enhanced diversion programs, and fluctuations in incoming tonnages; the updated estimated closure date is not due to a design capacity expansion.

3.7 Project Characteristics

Project Component Overview

The proposed project, if approved, would include an increase to the hours for the receipt of waste and ancillary/facility hours of operations of the existing Class III municipal solid waste landfill and include the construction and operation of the covered aerated static pile (CASP) forced aeration system. The compost facility proposes the handling of 100,000 tons per year that allows for composting of green materials, food materials, vegetative food materials, agricultural material, and manure from residential, self-haul, commercial, and franchise and municipal haulers.

Covered Aerated Static Pile Composting System

The proposed project includes the construction and operation of a covered aerated static pile (CASP) forced aeration system and utilization of an engineered membrane fabric technology to cover the constructed compost piles. Aerobic composting is the controlled decomposition of organic material by microbiological organisms (microbes) in the presence of oxygen. CASP composting is a form of thermophilic composting accelerated and managed through the positive pressure (pushing) or negative pressure (pulling) of air through the compost material during the active compost phase. As described by the Environmental Protection Agency (EPA, 2016), CASP composting is suitable for a relatively homogenous mix of organic waste and work well for larger quantity generators of yard trimmings and compostable municipal solid waste (e.g., food scraps, paper products), such as local governments, landscapers, or farms.

The project applicant is proposing to utilize a CASP composting system for several reasons:

- To facilitate the production of compost relatively quickly, within three to five months;
- System is designed to compost large volumes of organic waste efficiently and be operational in various climatic conditions year-round;
- The cover design will significantly minimize the emission of objectionable odors, greenhouse gasses (GHGs), and volatile organic compounds (VOCs) that naturally occur during the composting process;
- The cover will also help manage and maintain moisture content to minimize the need for supplemental water in arid climates, while acting as an effective barrier for potential vectors (such as birds, rodents, flies etc.); and
- The controlled delivery of air via in-ground perforated pipes, will keep the rows oxygenated creating an optimal environment for composting

CASP composting is designed to provide operators an effective method to accelerate and manage the composting process while controlling for odors and maintaining oxygen and moisture levels ideal for aerobic composting. CASP composting produces compost relatively quickly, within three to five months. The process is suitable for a relatively homogenous mix of inbound organic materials/wastes and works well for large volumes of municipal compostable organic materials, such as proposed for this project. Compostable materials do not require turning in the CASP system, as is the case with traditional windrow composting. In addition, CASP systems are designed to be a space-efficient method to compost large volumes of waste fairly quickly and can be conducted in multiple climates on a year-round basis. As a result, significantly less equipment, fuel, energy, and personnel are required and utilized in the CASP process. Because of the decreased composting cycle time associated with a CASP system, it provides an opportunity to handle, process, and compost more compostable feedstocks year-round relative to windrow composting.

CASP system have an environmental and control monitoring system that offers a broad range of process control options. All composting piles are monitored for temperature, moisture content, oxygen content, pH, and carbon/nitrogen ratio. All data is stored and analyzed so as to produce a high-quality finished compost product. As a function of the control system, aeration rates to individual piles are automatically controlled by an operator. The integrated aeration system can be configured based on the application needed, such as initial composting or the curing process. The air delivered, via in-ground perforated pipes, keeps the pile oxygenated which expedites the normal composting process. The air maintains the population and diversity of beneficial oxygen-consuming bacteria and has the benefit of controlling the foul odors that anaerobic

composting has the potential to emit. Air is typically distributed on a programmed schedule that can be modified based on feedstock inputs, moisture content, and technical readings.

The engineered membrane fabric is designed to control the emission of odors, greenhouse gases, and volatile organic compounds (VOCs) that emit during the composting process. Odors and other gaseous substances dissolve within the fabric cover and drop back into the compost pile where bacteria continue to break down. The fabric technology is designed to quicken the composting process. With the aid of the in-floor aeration system, the compost pile can maintain a moist and oxygen-rich environment where microbes thrive and quickly decompose organic waste. In addition, the CASP system and fabric technology minimize evaporative water losses from the organic materials, serve as an effective barrier to vectors (such as birds, rats, flies, etc.), and provide an organized and professional appearance. Since the climate is general drier and warmer, the fabric shelters the compostable material to prevent water from evaporating.

The CASP system is designed to maintain moisture levels by reducing evaporative losses, retain heat in smaller piles, reduce the attraction of the pile to vectors, reduce odors through water absorption of odorous molecules on the underside of the fabric covers, prevent rainfall from contacting decomposing waste thus enabling runoff to be managed as stormwater and provide better aesthetic appeal. Moreover, the primary and most significant benefit of a CASP system is the effective emissions reduction of VOCs, the primary source of odors and a precursor to regulated air pollutants.

Feedstocks received would be temporarily stockpiled, processed through various machinery to remove contamination or reduce in size, and then placed in a pile to begin active composting. Water would be supplied via the existing landfill's water storage tanks and on-site water supply well as described in Appendix C of this SEIR, Semitropic Improvement District of Semitropic Water Storage District "Well Sharing Agreement" with Kern County (approved by the Kern County Board of Supervisors, May 2, 2017), and would be applied during material receiving, mixing, and processing, as needed. Water (or recirculated leachate from the project site, when available) would be applied during compost pile construction to help reduce fugitive dust and to prepare the materials for ideal composting conditions. Materials would be actively composted for 6 to 8 weeks during which onsite monitoring by facility personnel for moisture content, oxygen content, pH, and temperature would occur via the on-site web-based monitoring system incorporated into the CASP system. The CASP forced aeration system would consist of concrete bunkers with subgrade aeration trenches to collect leachate and deliver air for the composting process. The leachate would be directed by subgrade drainage piping to a holding system for recirculation. Separation of storm water would be achieved by physically covering the material with an engineered fabric once the concrete bunker is determined to be full. The engineered fabric cover is designed to control the emission of odors, greenhouse gases, and volatile organic compounds that emit during the composting process. Odors and other gaseous substances dissolve within this fabric cover and drop back into the compost pile where bacteria continue to break down. The fabric technology is designed to quicken the composting process. With the aid of the in-floor aeration system, the compost pile can maintain a moist and oxygen-rich environment where microbes thrive and quickly decompose waste into fertilizer. The cover is placed over a concrete bunker via a tarping machine and attached to the side walls by facility personnel. Stormwater that is separated by means of the engineered membrane cover would be conveyed to the existing detention ponds to the south and northeast of the proposed composting area. After the active composting phase, materials would be moved via on-site and existing diversion equipment (such as a loader, skid steer loader, or equivalent equipment) to an adjacent bunker for the maturation stage for 4 to 6 weeks. Lastly, materials would be moved to a final bunker for 2 to 4 weeks to complete the final curing. The project proponent anticipates using the compost beneficially on site (per Title 27 California Code of Regulations [CCR]), as

an amendment to agricultural farmland soil, for community beautification projects, for residential property use, or another suitable end use. Outbound vehicles removing finished compost from the project site will be weighed and recorded and records kept for quarterly and annual State and local reporting requirements.

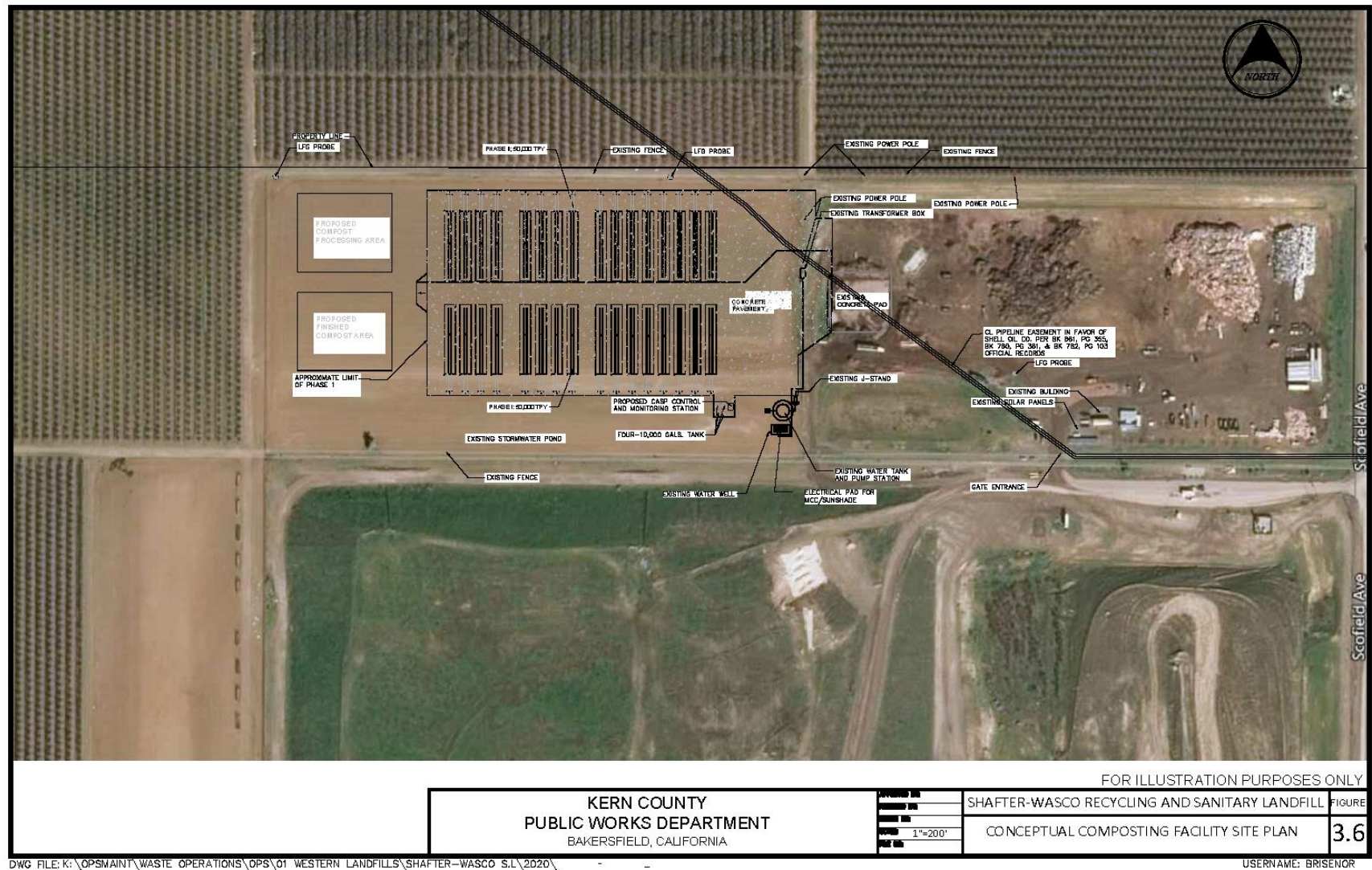
The CASP forced air system would be designed to reduce odor and volatile organic compound (VOC) emissions from the active compost stage, as described above. The CASP system would be expected to reduce the overall system footprint and retention time for composting, reduce the movement of material on site, and reduce the amount of off-road equipment units needed for daily operations. The system would be designed to satisfy the requirements of the San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4566, which regulates organic material composting operations. The project proponent may choose to utilize a biocover (such as 12 inches of finished compost or wood chips) that would meet the requirements of Rule 4566.

Incoming feedstock material would wholly come from the Kern County region, which includes but would not be limited to commercial sources, residential sources, franchise haulers, municipal haulers, incorporated cities, unincorporated Kern County, and regional operated compost facilities. Volume of inbound feedstock receipt and composition varies throughout the year based on seasonality, market conditions, haul routes, customer participation, and program implementation.

Various types of feedstock materials are combined to achieve the optimal carbon-nitrogen ratio, moisture levels, and porosity. Best management practices and continual composting operation refinement will define the ideal composition of feedstock for composting. Finished compost would be screened to remove any larger, non-composted materials. These materials would be reintroduced into the composting process. As stated above, finished compost may be used at the project site and regionally within Kern County boundaries. Most of the finished compost will remain within the boundaries of Kern County.

The project's existing solid waste facility permit and land use permit identifies the maximum permitted incoming traffic volume at 788 vehicles per day. There is no proposed increase to incoming traffic above the currently permitted limit. At full build out, the project estimates 40,000 tons per year of finished compost annually to be transported off site, equating to 1,739 outbound vehicle trips annual and an average of seven (7) large outbound vehicle trips daily (walking floors or equivalent style vehicle) assuming trucking 5 days per week. Due to the planned regional use of finished compost, it is projected a 20-mile radius for the final deposition of compost.

For the CASP system, these operational equipment units would be installed – 1 well water pump, 2 leachate pumps, 1 process water pump, 32 blowers, 1 screener, 1 finished screener, and 1 tarping machine. Except for one unit, all operating equipment units identified would be electrified. The tarping machine would be gasoline powered but could be electrified by the manufacturer. See Figure 3-6, *Conceptual Composting Facility Site Plan*, detailed below in this SEIR, for the proposed location and layout of the composting facility.



Proposed Feedstocks & Processing

The project would include the following compostable organic feedstocks, as defined by Title 14 CCR and Senate Bill 1383 – green material, food material, vegetative food material, manure, agricultural material, and other related organic materials. It should be noted that the existing solid waste facility permit and corresponding permitting documents currently authorize the receipt and handling of the listed feedstocks either for waste diversion or disposal. Rather than being transported off site, feedstocks would simply be redirected from their specific existing processing and handling operation to the proposed composting operation. Existing operations, as detailed above, includes the handling, processing, movement, stockpiling, and transportation, of the proposed feedstocks. These feedstocks would be redirected and incorporated into the composting operation and processing. Pre-processing of materials would remain the same as existing operations, as described. Pre-processing removes contamination and creates a more homogenous material to enhance the composting process. Contamination and residual waste would be disposed of at the landfill.

Processing equipment for the proposed composting element would include the use of existing equipment, as presented below in Table 3-7, *Equipment Used and Proposed for Landfill & Composting Operations*, in this SEIR. Additional equipment needed for the composting operations includes a standard skid steer loader, a standard loader, and a horizontal wood grinder.

Brush and yard trimmings: pre-processing of materials would be consistent with existing operations – stockpiled and processed through a grinder. Rather than being transported off site, ground brush and yard materials would be mixed with approved feedstocks and placed within a designated composting bunker.

Food material and vegetative food material: pre-processing of materials would be consistent with existing operations – deposited on the existing concrete pad and covered with an approved feedstock to control for liquid runoff and nuisances. Rather than being transported off site, food and vegetative food materials would be processed through an electrified star screen unit to remove contaminants (plastics, glass, fabrics, etc), mixed with approved feedstocks, and placed within a designated composting bunker.

Grass: pre-processing of materials would be consistent with existing operations – deposited on the existing concrete pad and processed through an electrified star screen unit to remove contamination. Rather than being transported off site, grass and green materials would be mixed with approved feedstocks and placed within a designated composting bunker.

Manure and agricultural material: pre-processing of materials would be consistent with existing operations – deposited on concrete pad and consolidated. Rather than being transported off site, manure and agricultural material would be mixed with approved feedstocks and placed within a designated composting bunker.

The project proposes a 100,000 tons per year operation for approved composting feedstocks. The proposed feedstock tonnages would not exceed the currently permitted maximum inbound tonnage of 1,500 tons per day for 300 days per calendar year / 2,250 tons per day for 15 days per quarter. Table 3-4, *Feedstock Definitions*, lists the proposed feedstock list for the project. Feedstock definitions, as described below, are sourced from Title 14 of the California Code of Regulations Section 17852. Sources of feedstocks include municipal, commercial, and residential sources. Existing operations already permit the handling, processing, movement, stockpiling, and transportation of the feedstocks presented in Table 3-4, *Feedstock Definitions*. Feedstocks presented would be incorporated into the proposed composting operation. No new feedstocks are being proposed under this project.

Table 3-4: Feedstock Definitions

Proposed Feedstocks*	Description of Feedstock
Green Material	“Green Material” means any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0 of percent physical contaminants by dry weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to, tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this section 17852(a)(5), that meets this definition of “green material” may be handled as either agricultural material or green material.
Food 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 and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food 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. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations adopted pursuant thereto.
Vegetative Food Material	“Vegetative Food Material” means that fraction of food material, defined above, that is a plant material and is separated from other food material and the municipal solid waste stream. Vegetative food material may be processed or cooked but must otherwise retain its essential natural character and no salts, preservatives, fats or oils, or adulterants shall have been added. Vegetative food material includes, but is not limited to, fruits and vegetables, edible flowers and plants, outdated and spoiled produce, and coffee grounds. Vegetative food material contains no greater than 1.0 percent of physical contaminants by dry weight and meets the requirements of section 17868.5.
Manure	“Manure” is an agricultural material and means accumulated herbivore or avian excrement. This definition shall include feces and urine, and any bedding material, spilled feed, or soil that is mixed with feces or urine.
Agricultural Material	“Agricultural Material” means waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this section 17852 as “food material” or “vegetative food material” is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pomace, and crop residues.
Yard Trimmings	“Yard Trimmings” means any wastes generated from the maintenance or alteration of public, commercial or residential landscapes including, but not limited to, yard clippings, leaves, tree trimmings, prunings, brush, and weeds.

Table 3-4: Feedstock Definitions**Proposed Feedstocks* Description of Feedstock**

*Existing operations already permit and allow for the handling, processing, movement, stockpiling, and transportation of the feedstocks presented in this table. Feedstocks presented above would be incorporated into the proposed composting operation. No new feedstocks are being proposed under this project.

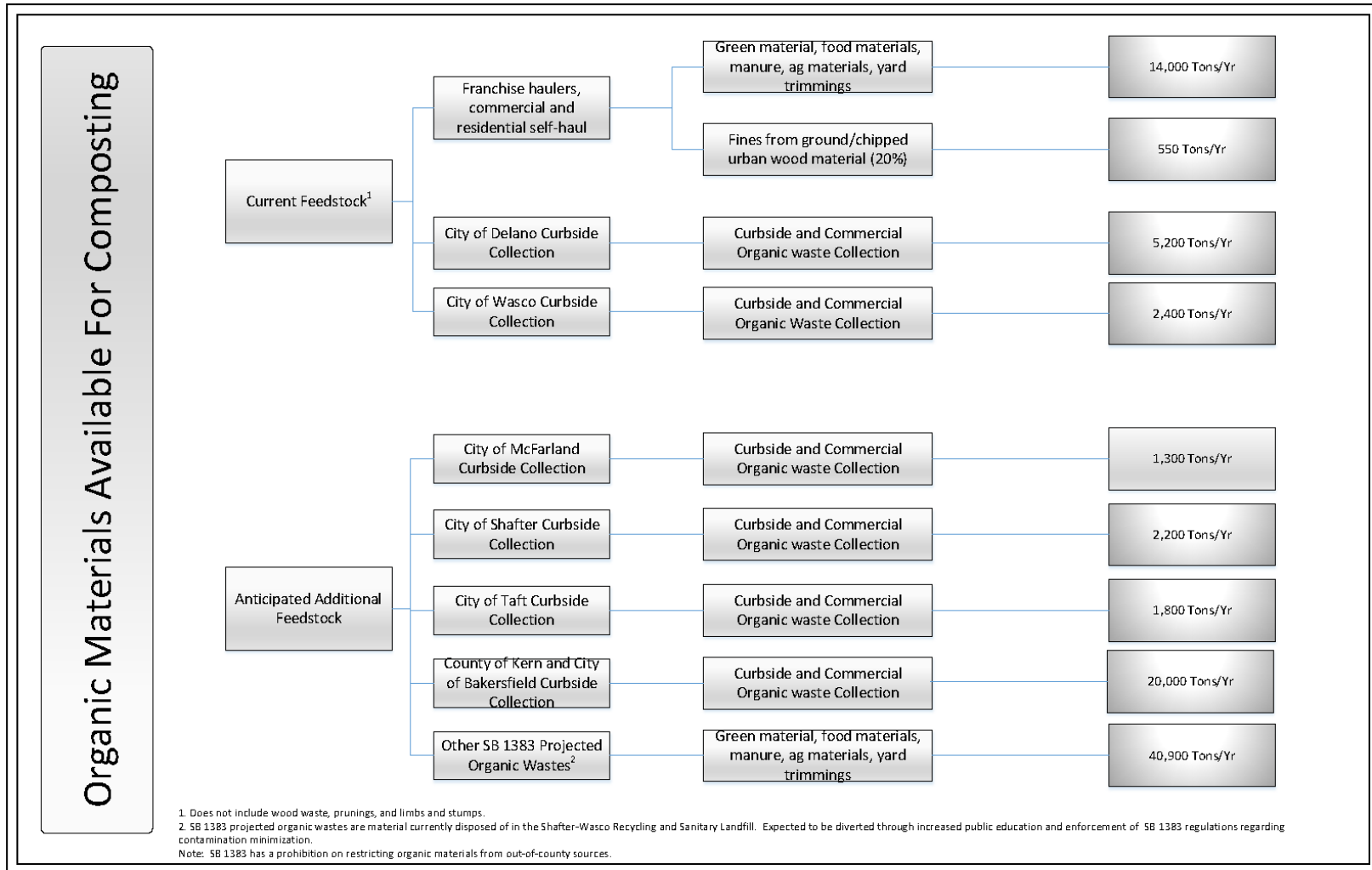
Table 3-5, *Proposed Average Inbound Material*, below, demonstrates the proposed and estimated volumes of incoming feedstock to be handled through the covered aerated static pile compost system. No amendments, additives, or coloring would be proposed. Information presented is assuming the maximum inbound tonnages and throughput based on the proposed system design of 100,000 tons per year.

Table 3-5: Proposed Average Inbound Material**Inbound Compostable Material**

Feedstock Material	Tons per Day	Processing Days	Tons per Year	Percent of Total Tonnage
Brush & Yard Trimmings	120	250	30,000	30 percent
Food & Vegetative Food Material	40	250	10,000	10 percent
Grass & Similar Green Material	160	250	40,000	40 percent
Manure & Agricultural Material	80	250	20,000	20 percent

**Annual production assumes inbound tonnage of 100,000 and a 40% yield of finished compost;
Inbound material assumed to be accepted 250 days out of the year.**

In addition, **Table 3-6, *Organic Materials Available for Composting***, below, demonstrates the volumes of current inbound feedstocks and the estimated anticipated additional feedstocks to be handled through the covered aerated static pile compost system. Senate Bill 1383 projected organic wastes, as identified in the table, are materials currently disposed of in the Shafter-Wasco RSLF. Organics are expected to be diverted through increased public education and enforcement of SB 1313 regulation regarding contamination minimization.

Table 3-6, Organic Materials Available for Composting

Construction of Composting System

Construction activities associated with the CASP forced air system consists of improvements and construction of concrete bunkers with sidewalls, push walls, and aeration trenches; underground and aboveground piping; water trap and collection sumps; pump station manhole; electrical conduit; site preparation, earthwork, final grading, and drainage; control and monitoring building; leachate piping and sump install; 4 x 10,000 gallon aboveground storage tanks containment and foundation; pumps, controls, wiring, valves and meters; air supply compressor; mobilization; concrete hardware and finishing; architectural coating; final site work and associated controls, valves, fittings, and bollards. Heavy, light-duty, and support equipment will complete earthwork needs, in general, consisting of mobilization and demobilization, excavation, backfilling, compaction, subgrade preparation, and trenching. .

The project proponent may choose to construct a complete build-out (Phase 1 and Phase 2) of the proposed project at one time over a single year. Construction of the facility may also occur in two phases. As such, construction of Phase 1 (16 bunkers at 50,000 Tons Per Year (TPY)) would be initially constructed. Operations of Phase 1 would run concurrently with the construction of Phase 2 (an additional 16 bunkers at 50,000 TPY). Total operational capacity of the proposed composting facility would be 32 bunkers and 100,000 TPY. Construction of the proposed project is expected to occur during the months of March through October, or approximately 235 days. Site preparation is anticipated to occur over a 10-day period, and grading is expected to occur over a 20-day period. Construction, which includes the bulk of the construction related items presented above, is anticipated to occur over 175 days. Architectural coating will complete construction and is anticipated to take 30 days. The total surface improvement for the CASP system construction is estimated to be 20 acres.

Site preparation, grading, and construction would occur in accordance with all federal, state, and Kern County zoning codes and requirements. The proposed project would be constructed by several, specialized construction contractors. Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. Any construction work anticipated outside of the normal work schedule would conform to requirements of local ordinance or would be requested through the appropriate agencies for applicable approval(s). All portable equipment with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent feasible. Contractor workforce employees, supervisors, support staff, and management personnel will be onsite during construction and will utilize the existing landfill and diversion area entrances. Traffic throughout the site will be monitored. Delivery of heavy equipment and construction supplies will be coordinated with the project proponent. During construction of the proposed project, water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Water would be supplied by the existing landfill's groundwater supply sources via the existing on-site water storage tanks and on-site water supply well, under agreement with Semitropic, as previously described. Estimated water usage for construction activities is 16.91 acre-feet. Construction activities associated with the project will require a singular and short-term water supply demand. Water usage during construction activities assumes 3,020 gallons/acre/day (AWMA, 2000). For Phase 1 construction, a 10-acre disturbance over 130 working days is projected, as described in detail below. For Phase 2 construction, a 5-acre disturbance is projected for an additional 105 working days.

Off-road equipment required for construction, including the equipment type, number of equipment, size (horsepower), daily hours, fuel usage, fuel efficiency, and total usage days, is summarized in the Air Quality Impact Analysis and Energy Conservation Study. Construction equipment would be turned off when not in

use. The construction contractor would ensure that all construction and grading equipment is properly maintained.

All applicable local, state, and federal requirements and best management practices (BMPs) would be incorporated into the construction activities for the project. Beginning work on the project site would involve site preparation for installation of the concrete padding, aeration system, and ancillary system equipment. The construction contractor would be required to incorporate BMPs consistent with the Kern County Zoning Ordinance and with guidelines provided in the *California Storm Water Best Management Practice Handbooks: Construction*, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP) and a Soil Erosion and Sedimentation Control Plan to reduce potential impacts related to construction of the proposed project. Contractor workers would utilize existing non-county maintained internal paved roads and maintained roadways to reduce tracking of sediment onto public roadways.

Dust minimizing techniques would be employed, such as the application of water and dust suppressants. When possible, grading activities would be undertaken outside the normal rainy season (i.e., October 15 to April 15 for most of Southern California), thus minimizing the potential for increased surface runoff and the associated potential for soil erosion. Any construction activities taking place in the rainy season would require supplemental erosion measures to be implemented per the approved SWPPP.

Onsite Fueling Activities

Facility operations currently include onsite fueling of mobile off-road and heavy-duty equipment. Under existing conditions, a vendor delivers diesel fuel, via truck, to the facility and fills the aboveground fuel tank with secondary containment. Equipment and vehicles in the diversion area, such as haul trucks, screeners, loaders, and grinders, is brought directly to an aboveground storage tank for fueling. Heavy-duty equipment associated with landfill activities, such as excavators, dozers, and loaders— may be serviced by a pickup truck with a fuel tank that brings the fuel directly to the equipment or equipment is brought directly to a fuel storage tank. These activities would continue under the current and proposed project.

Equipment

As shown in **Table 3-7, *Equipment Used and Proposed for Landfill & Composting Operations***, in this SEIR, operation of the proposed project would result in the use or continued use of equipment, including fuel trucks, landfill compactors, dozers, loaders, excavators, graders, loaders, screeners, grinders, water trucks, and pre-processing line conveyors. Most of the existing equipment is powered with diesel, although some of the proposed equipment would be diesel or electric.

TABLE 3.7: EQUIPMENT USED AND PROPOSED FOR LANDFILL & COMPOSTING OPERATIONS			
Equipment	Proposed or Existing	Process Used In	Power Source
Landfill Compactor	Existing	Compaction/pushing of solid waste	Diesel
Landfill Dozer	Existing	Compaction/pushing of solid waste	Diesel
Landfill Loader	Existing	Pushing of municipal solid waste	Diesel
Landfill Motor Grader	Existing	Soil excavation for landfill operations	Diesel
Landfill Water Truck	Existing	Dust suppression in landfill activities	Diesel
Skid Steer Loader	1 Existing / 1 Proposed	Handling of diversion materials	Diesel
Tarping Machine	1 Proposed	Covering of compostable materials	Diesel/Electric
Screener	Existing	Screening of organic materials	Electric
Horizontal Grinder	Existing	Processing of organic materials	Diesel/Electric
Slow Speed Shredder	Existing	Processing of organic materials	Diesel
Sorting Line	Existing	Sorting of organic materials	Electric
Loading Dock	Existing	Handling/storage of diversion materials	Electric
Baler	Existing	Baling of cardboard and recyclables	Electric
Water Truck	Existing	Dust suppression and processing of materials for diversion activities	Diesel
Fuel Tank	Existing	Fueling of equipment	-
Haul Vehicles	Existing	Material transfer, inbound/outbound	Diesel
Used Oil Tank	Existing	Storage of used oil for recycling	-
Solar Panels	Existing	On-site power supply for diversion	Solar/Electric
Support Truck	Existing	County vehicles for site operations	Gasoline

The project is anticipated to change mobile source and off-road activity compared to existing conditions. As described in detail above, under existing conditions, inbound material is delivered to the project site via franchise haulers, municipalities, contractors, and self-haul residential customers under approved permit limits and land use conditions. Outbound organic materials, after processing on-site, are transported off site to Recology Blossom Valley Organics – South, City of Bakersfield’s Mount Vernon Recycling & Composting Facility, Liberty Composting Inc., Bakersfield Metropolitan (Bena) Sanitary Landfill, and Green Compass currently. Existing operations utilize, on average, twenty (20) large outbound vehicle trips per day and average a 35-mile one-way radius for hauling feedstocks to the end markets. Under the project, organic materials would be composted on-site rather than transported materials for composting, reducing the overall outbound vehicle demand. As proposed for project implementation and presented above, the project estimates 40,000 tons per year of finished compost annually to be transported off site, equating to 1,739 outbound vehicle trips annual and an average of seven (7) large outbound vehicle trips daily (walking floors or equivalent style vehicle) assuming trucking 5 days per week and 23 tons per outbound vehicle. Overall, there is a reduction in daily outbound vehicle trips from twenty (20) to seven (7). Due to the planned regional use of finished compost, it is projected a 20-mile one-way radius for the final deposition of compost.

Construction Activities

Schedule and Workforce

Construction of the proposed project would include the following activities: mobilization; site preparation; grading; earthwork; concrete bunker construction; leachate piping and sump install; tank containment and foundation; concrete hardware and finishing; electrical; and finishing site work.

The project proponent, as described above, may choose to construct a complete build-out (Phase 1 and Phase 2) of the proposed project at one time over a single year. Construction of the facility may also occur in two phases. As such, construction of Phase 1 (16 bunkers at 50,000 TPY) would be initially constructed. Operations of Phase 1 would run concurrently with the construction of Phase 2 (an additional 16 bunkers at 50,000 TPY). Phase 1 is estimated to be completed over 130 working days, and Phase 2 is estimated to be completed over 105 working days. In total, construction of the proposed project is expected to be over approximately 235 working days. The construction schedules are shown in Table 3-8, *Construction Schedule for Phase 1*, in Table 3-9, *Construction Schedule for Phase 2*, and Table 3-10, *Total Working Days for Phase 1 and Phase 2*.

Table 3-8, Construction Schedule for Phase 1		
Task	Sub-Task	Task Duration (Working Days)
Mobilize	Trailer Electrical and Site Prep	10
	Prep subgrade	10
Bunker Construction (16 Bunkers)	Wall Footing	13
	Wall	18
	Trench Drain Footing	5
	Install Trench Drain	10
	Trap Footing	3
	Install Trap	5
	Trap Pipe Connections	5
	Staging and Curing	9
	Slab	10
Leachate Piping and Sump Install	Install Tank	8
	Install Piping	13
Effluent Tank Containment and Foundation	Excavate Foundation	1
	Form Foundation	3
	Rebar Foundation	3
	Pour Foundation	1
	Strip Foundation	1
	Form Retaining Walls	4
	Pour Retaining Walls	1
	Strip Retaining Walls	1
	Leachate Tank and Pump Installation	20
Concrete Hardware & Finishing	Rub and Patch Concrete	13
	Caulk Wall and Slab Joints	11
	Install Cable Eye Hooks, Caps, Cable Cover	16
	Fill Caps/Fill Clean	7
Electrical	Install Underground Conduits	20
	Set Control Boxes	4
	Install Disconnects, Panels	5

	Pull Wires	5
	Power Terminations	5
Final Site Work	Install Bollards	4
	Install Asphalt	4
	Other	7

Table 3-9, Construction Schedule for Phase 2

Task	Sub-Task	Task Duration (Working Days)
Site Prep	Prep subgrade	10
Bunker Construction (16 Bunkers)	Wall Footing	13
	Wall	18
	Trench Drain Footing	5
	Install Trench Drain	10
	Trap Footing	3
	Trap Pipe Connections	5
	Slab	10
Leachate Piping and Sump Install	Install Tank	8
	Install Piping	13
Concrete Hardware & Finishing	Rub and Patch Concrete	13
	Caulk Wall and Slab Joints	11
	Install Cable Eye Hooks, Caps, Cable Cover	16
	Fill Caps/Fill Clean	7
Electrical	Install Underground Conduits	20
	Set Control Boxes	4
	Install Disconnects, Panels	5
	Pull Wires	5
	Power Terminations	5
Final Site Work	Install Bollards	4
	Install Asphalt	4
	Other	7

Table 3-10, Total Working Days for Phase 1 and Phase 2

Construction Task	Total Phase 1 Working Days	Total Phase 2 Working Days
Site Preparation	10	0
Grading	10	10
Construction	95	80
Architectural Coating	15	15
Total	130	105

In addition to the proposed composting operation, it is assumed that other components of the CUP modification, such as the revision to the Shafter-Wasco RSLF permitted facility boundary to 407.69 acres (to include 50.21 acres of landfill buffer property and designate 20 acres for the compost facility), the increase to the hours for the receipt of refuse/waste, and the increase to ancillary and facility operating hours, would take immediate effect upon approval of the project.

The total surface improvement of the CASP construction project is estimated to be 20 acres, with portions of the acreage concreted for composting operations, compacted for the storage and processing of finished compost, improved for stormwater management and drainage features, dedicated to a monitoring building, and placement of leachate collection tanks. The proposed project would be constructed by several, specialized construction contractors over a period of time. Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. Any construction work anticipated outside of the normal work schedule would conform to requirements of the Kern County Noise Ordinance (Chapter 8.36) or would be requested through the appropriate agencies for applicable approval(s).

Project Site Lighting During Construction

Temporary project site lighting, if determined to be needed, will be directed away from any public rights-of-way and shielded to reduce light spillover onto nearby properties in compliance with the Kern County Zoning Ordinance requirements noted in Section 19.81 Outdoor Lighting-Dark Skies, of the document. Lighting used onsite during construction would be minimal. Site lighting may include motion sensor lights for security purposes.

Hazardous Materials & Wastes

Hazardous materials used for construction would be typical of most construction projects of this type. Materials would include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, herbicides, and welding materials and supplies. A hazardous materials business plan would be provided to the Kern County Environmental Health Services Division. The hazardous materials business plan would include a complete list of all materials used onsite and information regarding how the materials would be transported and in what form to be used. This information would be recorded and retained to maintain safety and prevent possible environmental contamination or worker exposure. During project construction, material safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel.

Hazardous Waste

Small quantities of hazardous wastes would most likely be generated over the course of construction. These wastes may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Contractor employees would be required to 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 or disposal facility, and all hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler.

Additional Site Assessments and Improvements

Additional improvements may be required by the State Water Resources Control Board (SWRCB) as part of the approval process for this project. The facility currently holds site-specific Waste Discharge Requirements (WDR). The WDR would need to be revised to reflect operational changes associated with this project and additional regulatory requirements imposed by the SWRCB. Alternatively, the facility may be put under a project specific WDR under the SWRCB General Waste Discharge Requirements for Composting Operations (General Order). Site improvements, including the composting facility design specifications, working surfaces, and drainage and stormwater management features, would be consistent with the General WDR to meet the SWRCB's specifications and to protect the quality of groundwater. Additionally, the San Joaquin Valley Air Pollution Control District may require additional improvements or processes such as paving active composting and/or processing areas or compacting the soil as part of the approval and permitting process for the project

Self-Haul Receiving & Processing Activities

The proposed project also includes an enhancement to existing diversion activities by providing additional self-haul transfer and processing activities at a dedicated location in the diversion area of the northern buffer area. Construction activities associated with the self-haul recycling facility consists of the construction of a 500ft x 500ft concrete pad (or alternate impervious option), which includes heavy equipment and support equipment to complete, in general, mobilization/demobilization, excavation, compaction, subgrade preparation, placement of concrete, drainage, and final grading. Self-haul customers would be directed to deposit their commingled solid waste loads onto a concrete, asphalt, or compacted soil surface dumping pad in the existing diversion area. Staff would sort the load using equipment or by hand, removing divertible materials and placing materials into stockpiles. Items targeted for diversion include, but are not limited to, scrap metal, wood waste, dimensional lumber, tires, tree trimmings, brush, grass clippings, organic wastes, inerts (concrete, asphalt, tile, etc.), drywall, electronic waste, mixed recyclables (cardboard, paper, aluminum, plastics, etc.), mattresses, and carpet. Residual solid wastes that cannot be salvaged would be sent to disposal. Existing equipment owned, operated, and maintained by the project application would be utilized for the processing and movement of separated diverted materials.

Hours of Operation & Ancillary Activities

The proposed project includes an increase to the permitted hours for the Receipt of Waste from 7:00 a.m. to 5:00 p.m., seven days per week to 7:00 a.m. to 7:00 p.m., seven days per week. Hours for the Receipt of Waste is defined as the days and hours open to all customers for the deposition of waste and diversion materials. The proposed increase in waste acceptance hours would be to provide additional waste disposal

opportunity beyond standard working hours to the residents and commercial customers of Kern County. An increase in hours would also reduce the illegal dumping activities in the area caused by limited hours.

The following existing equipment would be utilized during the expanded hours for the receipt of waste, along with the respective increase in usage per day to accommodate needed landfill and disposal operations – standard wheel refuse compactor (2 hours), track-type dozer (.2 hours), wheel loader (.2 hours), motor grader (.2 hours), and water truck (.5 hours). The proposed operation would result in the use or continued use of existing equipment with no new off-road heavy equipment units to the existing fleet being proposed.

The proposed project includes a change in Ancillary and Facility Operating Hours from 7:00 a.m. to 5:00 p.m., seven days per week to 24-hours a day, seven days per week. Facility Operating Hours is defined as the days and hours during which non-disposal activities occur, including but not limited to – prescriptive cover placement; alternative daily cover placement and removal; facility and equipment maintenance; dust control activities; stockpile management; processing, loading, handling, and transporting of diversion materials; maintenance and operation of the compost facility; environmental monitoring system maintenance, installation, and monitoring; and other non-disposal related activities associated with the operation, maintenance, and monitoring of a solid waste disposal facility, compost facility, and diversion operation. The project proponent requires access to the project site 24 hours a day in the event of, including but not limited to, fire, theft, environmental monitoring system failure, equipment maintenance and repair, or other actions related to landfill and diversion activities.

Solid Waste Facility Buffer Area

The proposed project includes the addition of 50.21 acres into the solid waste facility permit as permitted facility boundary and into the CUP as solid waste disposal facility buffer. The 50.21 acres is the southern portion of APN 088-100-08. No landfilling activities will occur on the parcel. The project proposes to utilize the property consistent with the existing CUP and identified land use approvals, which includes – borrow areas; drainage facilities; landfill gas and groundwater monitoring; passive energy collection facilities, with prior written approval of the Director of the Kern County Planning & Natural Resources Department; construction and closure activities; drainage improvements and erosion controls; groundwater monitoring installations; landfill gas monitoring and extraction installations; areas required for landfill closure construction; leachate storage and extraction facilities; closure equipment staging facilities; Habitat Conservation Plan offsets; waste recycling and diversion activities; agricultural development under lease agreement; and buffer to prevent incompatible adjacent land uses.

Operation and Maintenance Activities

Once construction activities are complete, operations, maintenance, and housekeeping of the CASP system and equipment would commence and be consistent with existing operations. Housekeeping includes utilizing equipment or small and miscellaneous hands tools to clean the site, impervious surfaces, bunkers, pathways, and all other composting and self-haul related areas. A general maintenance checklist would be utilized for off-road heavy equipment in operation.

Operation Water Use

Under the proposed project, groundwater use would increase by approximately 2.76 acre-feet per year for Phase 1 composting operations and 5.52 acre-feet per year for a full build out of Phase 2 operations. For

expanded landfill operations, the volume of water projected for use is 4.41 acre-feet per year. In total, proposed operations would be 34.19 acre-feet per year, an increase of 9.93 acre-feet per year (~40.9%) compared to existing conditions. Existing operations averages 24.26 acre-feet of water usage per year and provided by County-owned water supply wells and tanks onsite.

Project Site Security and Fencing During Operations

The existing project site is enclosed within a 6-foot high chain link fence with locked security gates strategically located at various entrance points of the project site, including the main entrance of the site. Currently, a nighttime security guard, utilizing a small truck, canvassed the project site for security purposes. The proposed project does not include additional site security or fencing.

Project Site Lighting During Operations

For expanded landfill operations, similar to existing operations, landfill equipment utilizes affixed lighting, as needed, to maneuver the site to perform disposal activities during periods of darkness. The project would continue the use of existing landfill heavy equipment and associated equipment lighting on-site. No permanent lighting features would be installed for expanded hours of operation. Under rare conditions, such as an emergency event or special occurrences as defined in Title 27 CCR, the project proponent would rent temporary and portable light generators for use. If deemed necessary for short-term use on-site other than use related to emergency response, temporary and portable units would be shut down at 7:00 p.m. so as to not operate beyond the proposed hours of operation or affect the nearby residential dwelling. Any lighting features would be consistent with the Kern County Zoning Ordinance requirements noted in Section 19.81 Outdoor Lighting-Dark Skies, of the document.

For composting operations, similar to existing operations, the project would continue the use of existing diversion equipment and associated equipment lighting on-site. The design of the composting operation incorporates permanent lighting fixtures. These motion sensitive, directional lighting fixtures are proposed and would be strategically installed around the outside of the proposed composting system. The primary function of lighting is to serve as security for the facility, not for nighttime composting operations or feedstock handling. Permanent lighting fixtures would be shielded and directed downward to minimize potential for glare or spillover onto adjacent properties and roadways, consistent with the Kern County Zoning Ordinance requirements noted in Section 19.81 Outdoor Lighting-Dark Skies, of the document. Motion sensors would trigger lights to illuminate in the event of unauthorized activity; however, lights would shut off within a set timeframe. Lights on the control building would meet California Building Code standards, be controlled by the project proponent and would not drift onto adjacent properties.

3.8 Entitlements Required

The major components of approval for the project would include:

Amend the Kern County General Plan (GPA No. 10, Map 78)

- From Map Code 3.4.1 (Solid Waste Facility Buffer) to Map Code 3.7 (Other Waste Facilities) for 20 acres for a 100,000 ton per year compost facility
- From Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer;

- Amend Appendix E Map “Shafter-Wasco RSLF” to show revised permitted facility with designated buffer and compost areas

Modify the existing Conditional Use Permit (CUP No. 1, Map 78)

- Revise the Shafter-Wasco RSLF permitted facility boundary from 357.48 acres to 407.69 acres to include 50.21 acres of landfill buffer property and designate 20 acres for the compost facility with no change to the 135-acre permitted disposal area
- Include a 100,000 ton per year compost facility that allows for the composting of green materials, agricultural materials, paper materials, vegetative food materials, food materials (non-vegetative), and manure from residential, self-haul, commercial, and municipal haulers
- Establish a finished compost storage time limit of 180 days to accommodate seasonal markets
- Integrate enhanced self-haul recycling operations into existing waste diversion operations
- Increase the hours for the receipt of refuse/waste from 7:00 a.m. to 5:00 p.m., seven days per week to 7:00 a.m. to 7:00 p.m., seven days per week
- Increase ancillary and facility operating hours, including non-disposal operations, from 7:00 a.m. to 5:00 p.m., seven days per week to 24 hours a day, seven days per week

Revise the existing Solid Waste Facility Permit (SWFP #15-AA-0057)

- Increase the permitted facility boundary to 407.69 acres that will include the additional buffer area
- Increase the composting design capacity from zero tons per year to 100,000 tons per year
- Increase the hours for the receipt of waste from 7:00 a.m. to 5:00 p.m., seven days per week to 7:00 a.m. to 7:00 p.m., seven days per week
- Increase ancillary and facility operating hours, including non-disposal operations, from seven days per week 7:00 a.m. to 5:00 p.m. to 24 hours a day, seven days per week
- Update estimated closure year from 2059 to 2055. (Note – The closure date is an estimate subject to annual review based upon such factors as fill rate, inbound tonnage, waste projections, waste settlement, and regional growth rates.)

Apply for the issuance of Waste Discharge Requirements (WDRs) for Composting Operations

- Construct and operate a 100,000 tons per year Tier II designed compost that allows for the composting of green materials, agricultural materials, paper materials, vegetative food materials, food materials (non-vegetative), and manure from residential, self-haul, commercial, and municipal haulers

Apply for Authority to Construct and Permit to Operate

- Allow for the construction and operation of a 100,000 tons per year compost facility utilizing Best Available Control Technology designed to satisfy the requirements of the San Joaquin Valley Air Pollution Control District Rule 4566 and volatile organic compound emissions from composting operations

The project will require certain discretionary actions and approvals from other agencies including, but not limited to, the following:

Federal

- No federal requirements are required for the proposed project.

State

- Regional Water Quality Control Board (RWRCB), Revision to existing Waste Discharge Requirement or Site-Specific Waste Discharge Requirement permit or applicability of the General Order
- California Department of Resources, Recycling and Recovery (CalRecycle)
 - Concurrence of Solid Waste Facility Permit
 - Amendment to Joint Technical Document
 - Amendment to Report of Compost Site Information
 - Amendment to Odor Impact Minimization Plan

Local

Kern County – Planning Commission and Board of Supervisors

- Modification of Current Conditional Use Permit No. 1
 - General Plan Amendment No. 10
 - Amendment of General Plan Appendix E Map “Shafter-Wasco RSLF”
 - Certification of Supplemental Environmental Impact Report
 - Adoption of Supplemental Mitigation Measures and Monitoring Program 2021
 - Adoption of 15091 and 15093 Findings of Overriding Consideration
- Kern County Public Health Services Department, Environmental Health Division
 - Revision to Solid Waste Facility Permit
 - Amendment to Joint Technical Document
 - Amendment to Report of Compost Site Information
 - Amendment to Odor Impact Minimization Plan
- Kern County Public Works – Building and Development, Flood Plain & Survey
 - Plan for Disposal of Drainage Waters
 - Grading and Building Plans
- Kern County Fire Department

- Fire Safety Plan
- San Joaquin Valley Air Pollution Control District
 - Authority to Construct
 - Permit to Operate
 - Fugitive Dust Control Plan
 - Emission Reduction Agreement

3.9 Cumulative Projects

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

According to the *CEQA Guidelines*:

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

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Section 15355).

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

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

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

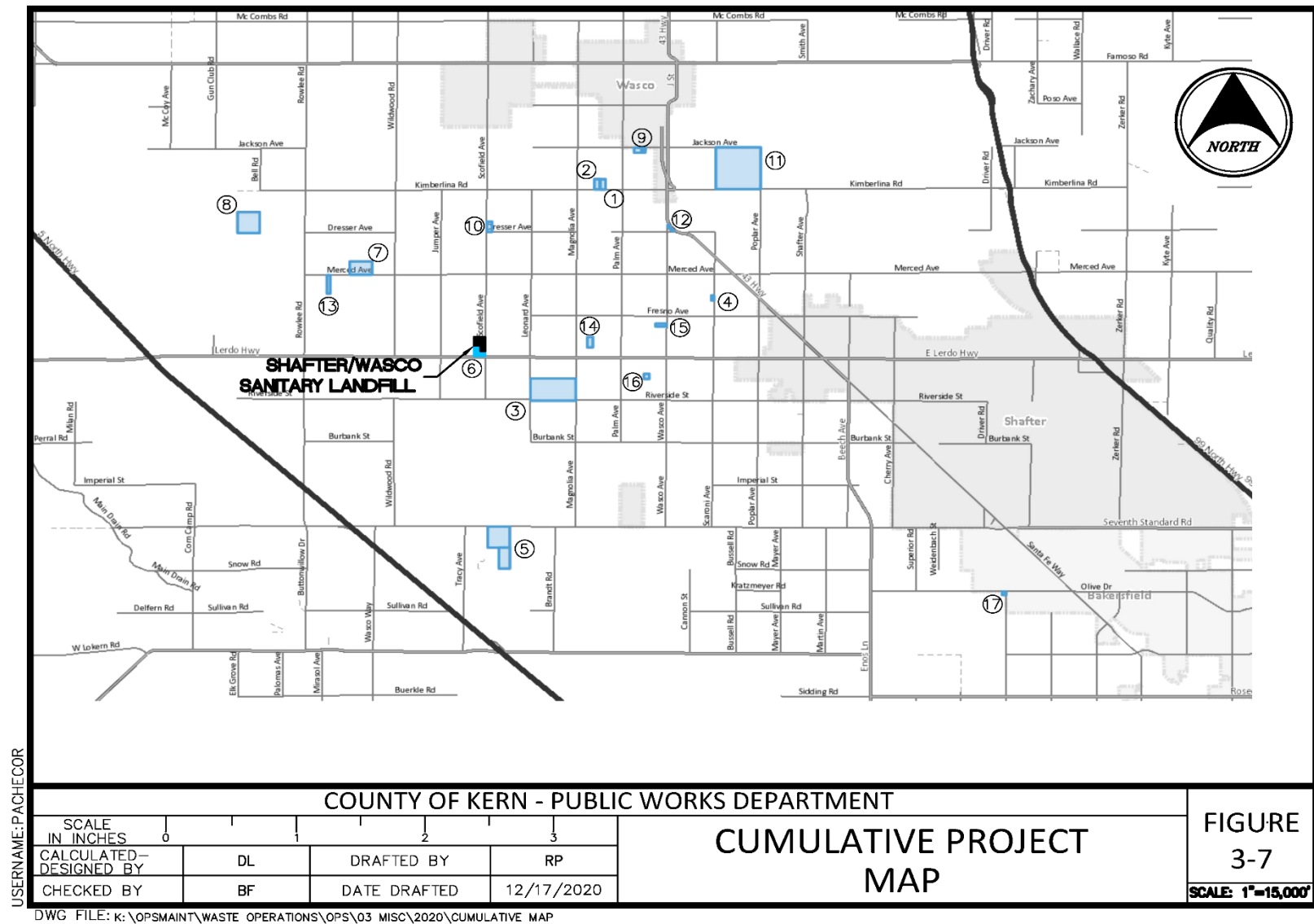
A list and description of past, present, and reasonably foreseeable projects near the project site can be found in Table 3-11, *Cumulative Projects List*, below in this SEIR. Figure 3-7, *Cumulative Project Map*, illustrates the location of the past, present, and reasonably foreseeable projects relative to the project site.

Table 3-11: Cumulative Projects List

Project Name	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage	Project Status
KERN COUNTY PROJECTS							
1- and 6-Mile Project List							
1. Wayne Johnson Transport, Inc.	Corner of Kimberlina Rd. & Central Ave. Wasco, 93280	X	CUP	X	071-040-08	X	Applied
2. Wayne Johnson Transport, Inc.	Corner of Kimberlina Rd. & Central Ave. Wasco, 93280	X	CUP	X	071-040-09	X	Applied
3. AT&T, Vance Pomeroy	Intersection of Riverside St and Magnolia Ave	Communications	CUP	75-foot-tall monopole tower	088-130-216	X	Applied
4. Megan Barnes	17411 Scaroni Ave, Shafter, Ca 93263	Animal Services	CUP	CUP to operate an existing dog kennel	089-080-014	X	Applied
5. Goyenette Family Trust	Seventh Standard Road, east of Tracy Ave	Biogas	CUP	CUP to construct & operate a biogas upgrading facility	103-020-319	X	Applied
6. Nextel, Jeff Lienert	NE Corner of Lerdo Hwy & Scofield Rd	Communications	CUP	Cellular communication facility	088-100-08	X	X
7. Ag Resources II, LLC; Moo West	½-mile north of Merced Road, ¾-mile west of Wildwood	Dairy	CUP	Dairy operation	069-340-32	X	X
8. Wegis Ranch	South of Bell Road & Kimberlina Road	Solar	CUP	Develop a solar project for net metering to adjacent agricultural properties	069-350-07	155.60	X
9. Leona Grant	SW corner of Griffith and Jackson	Housing	CUP	Medical hardship mobile home	071-050-33	18	X
10. Ilda Silva	16688 Scofield Ave	Animal Services	CUP	Equestrian Facility	071-130-12	18.76	X

Table 3-11: Cumulative Projects List

Project Name	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage	Project Status
11. AT&T, Vance Pomeroy	Kimberlina Ave & Poplar Ave	Communications	CUP	70-foot-tall monopole tower and equipment	072-12-20	X	X
12. Mike Pitcairn	16674 HWY 43, Wasco, California	X	GPA, ZCC	GPA from 8.1 to 7.2; ZCC from A-1 to M-2 PD	072-170-26	3.59	X
13. Ernestina Hernandez	26307 Merced Ave, Wasco, California	Event Venue	CUP	CUP for event venue, determination of alternative similar use	087-010-27	X	X
14. Jennifer Chou	28549 West Tulare Avenue, Shafter	Solid Waste/Composting	CUP	CUP to allow organic composting	088-060-57	X	X
15. AT&T, Vance Pomeroy	17641 Wasco Ave	Communications	CUP, ZCC	70-foot monopine wireless communication facility	088-080-31	X	X
16. Leo Garza, Porter & Associates	NE corner of Los Angeles St & Griffith Ave	X	ZCC	ZCC from A to A-1	088-110-23	10	X
17. Franz Affentranger, Pine Dairy	SE corner of 7 th Standard & Brandt Road	Dairy	CUP	CUP for Dairy - 589.35 acres & Crop 1973.28 acres	463-030-12	2563.63	X



4.1.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified Shafter-Wasco Sanitary Landfill Permit Revision Project EIR and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to aesthetics associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.1.2 Existing Environmental Setting

The existing environmental setting for aesthetics is unchanged from what was described in Section 4.1 *Aesthetics*, pages 4.1-1 through 4.1-15 of the 2009 EIR, with the following updates.

Landscape Existing Conditions

The project site is located at 17261 Scofield Avenue Shafter, CA 93263, one mile north of Lerdo Highway in unincorporated Kern County, on Assessor’s Parcel Numbers (APNs) 088-100-38; 088-100-40; and 088-040-08. The description of the regional character as provided in the 2009 EIR is the same for this project. The land designated for solid waste facility buffer is generally flat and in view of the travelling public. The land designated for the compost facility (directly west of the existing diversion area) is generally flat and relatively hidden from view of the travelling public on Scofield Avenue by the existing landfill, diversion activities, and existing tree line along the northern edge of the landfill entrance road. The height of the existing landfill is 384 feet above Mean Sea Level (AMSL), diversion area stockpiles are an average height of 10-25 feet above ground surface, and existing equipment height ranges from 10-20 feet.

Sensitive Viewers

Scenic Routes/Vistas

There are still no designated State Scenic Highways within Kern County. There are still no scenic vistas in the region either, however, the project is within the view shed of the traveling public using Lerdo Highway and Scofield Avenue.

Recreational Areas

There are still no identified parks or open spaces within or adjacent to the project site, other than agricultural fields.

Residential Areas

The project area is predominantly agricultural in nature. See **Figure 4.1-1, *Residential Dwellings***, for the location of surrounding dwellings. These dwellings are scattered throughout the area with no concentration of sensitive receptors located near or around the project site. The closest existing residential in use is a residence located off County owned property. The nearest residential dwelling, used in conjunction with agricultural activities, is one half (1/2) mile west of the proposed project site.

Airports

The project area is still not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The nearest public airports are the Wasco Airport (10 miles northeast) and Minter Field Airport (13.8 miles east). The site is outside the planning spheres of influence for the Cities of Shafter and Wasco and outside the Metropolitan Bakersfield area.

Lighting

The current landfill operation activities may take place seven days a week from no earlier than 7:00 a.m. to no later than 5:00 p.m. Because operational activities have occurred mainly during daylight hours, existing sources of light at the landfill have been minimal. Also, these light sources are sited and designed so that light from the landfill site does not spill over onto adjacent land uses. There are small amounts of glare associated with light reflecting off vehicles traveling to and from the landfill and using the on-site access road to deposit refuse.

4.1.3 Regulatory Setting

The regulatory setting for aesthetics is the same as that described in Section 4.1.4 *Regulatory Setting*, pages 4.1-7 through 4.1-16 of the 2009 EIR, with the following updates.

Local

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. 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 SEIR 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.

Methodology

As previously analyzed in the 2009 EIR, the existing visual character of the region and the proposed project site consists of active landfill operations, diversion activities, agricultural operations, and non-urbanized and rural operations. To determine the visual impacts, specific viewpoints were identified. Viewpoints are generally selected for one or two reasons: 1) the location provides representative views of the landscape

along a specific route segment or in a general region of interest; and/or 2) the viewpoint effectively captures the presence or absence of a potentially significant project impact in the location. Viewpoints are typically established in locations that provided high visibility to a relatively large number of viewers and/or sensitive viewing locations such as residential areas, recreation areas, and vista points. These viewpoints are identified in detail under Section 4.1.5.3 pages 4.1-10 through 4.1-16, of the 2009 EIR, with assessment of potential proposed project impacts.

The analysis of light and glare identifies the location of light-sensitive land uses and describes the existing ambient conditions on and in the vicinity of the project site. The analysis describes the proposed project's light and glare sources and the extent to which project lighting, including any potential illuminated signage, would spill off the project site onto adjacent light-sensitive areas. The analysis also describes the affected street frontages, the direction in which the light would be focused, and the extent to which the proposed project would illuminate sensitive land uses. The analysis also considers the potential for sunlight to reflect off of windows and building surfaces (glare) and the extent to which such glare would interfere with the operation of motor vehicles, aviation, or other activities. Glare can also be produced during evening and nighttime hours by artificial light sources, such as illuminated signage and vehicle headlights. Glare-sensitive uses generally include residences and transportation corridors (i.e., roadways).

To determine the impacts of the proposed hours of operation expansion related to light and glare, uses typically sensitive to light and glare, in this case residential dwellings, in the vicinity of the proposed project were identified. The sources and amounts of light and glare that would occur on the landfill site as currently permitted were compared with the amount of light and glare that would occur as part of the proposed expanded landfill hours of operation.

To determine the impacts of the proposed composting operation and 24-hour ancillary operating hours (non-disposal site activities) related to light and glare, land uses typically sensitive to such light and glare, such as residential dwelling, in the vicinity of the proposed project were identified. The sources and amounts of light and glare that would occur on the landfill site as currently permitted were compared with the amount of light and glare that would occur as part of the proposed composting operation.

In addition, the Kern County Dark Skies Ordinance (Chapter 19.81), was analyzed and incorporated into the design features of the project to reduce unnecessary night lighting and to minimize lighting impacts on surrounding properties to help protect the rural characteristic of a natural dark sky environment and to avoid public nuisances.

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that 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 points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

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

Project Impacts

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

As previously described in Section 4.1.3 of the 2009 EIR, *Environmental Setting*, there are no locally designated scenic vistas within the vicinity of the proposed project. The proposed project is not sited in an area considered to be a scenic vista nor is it an area designated as a scenic route in Kern County per the Kern County General Plan and Caltrans' California Scenic Highway Mapping System. There are no state- or county-designated scenic highways or sensitive view corridors in the immediate vicinity of the proposed project area. There are no designated scenic viewpoints within the areas of the proposed project and no designated scenic viewpoints from which the proposed project area is visible, therefore no impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

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.

As previously described in Section 4.1.3 of the 2009 EIR, *Environmental Setting*, the site does not contain scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. There are no State Scenic Highways located within the proposed project area or vicinity, therefore no impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.1-3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points). If the

project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

As previously described in Section 4.1.3 of the 2009 EIR, *Environmental Setting*, the site is in a non-urbanized, unincorporated area of Kern County. The area surrounding the site is rural and consists of predominantly flat agricultural land.

The composting element of the proposed project is to be constructed and operated directly west of the existing diversion area at the existing Shafter-Wasco Recycling & Sanitary Landfill (RSLF); the self-haul element is to be constructed and operated within the existing diversion area at the existing Shafter-Wasco RSLF. The land designated for the compost facility is generally flat and relatively hidden from view of the travelling public on Scofield Avenue by the existing landfill, diversion activities, and existing tree line along the north edge of the landfill entrance road. The height of the existing landfill is 384 feet above Mean Sea Level, diversion area stockpiles are an average height of 10-25 feet above ground surface, and existing equipment height ranges from 10-20 feet. New construction, operations, equipment, and stockpiles will not exceed that of existing heights and will be located within the existing operational footprint of the landfill and diversion area. The land designated for solid waste facility buffer is generally flat and in view of the travelling public. The proposed Project will not substantially degrade the existing visual character or quality of public views of the site and therefore 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: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

Chapter 19.81 of the Kern County Zoning Ordinance is intended to reduce unnecessary night lighting and to minimize lighting impacts on surrounding properties to help protect Kern County's rural characteristic of access to a natural dark sky environment and to avoid public nuisances. The "Dark Skies Ordinance" (Ordinance) applies to all new outdoor lighting and certain existing outdoor lighting within specified unincorporated areas of Kern County and would apply to the proposed project. Any new outdoor lighting fixtures utilizing 100+ watts and emitting 1,600+ lumens per fixtures shall be fully shielded, as defined and illustrated in the Ordinance, to reduce light spillover onto adjacent properties. Floodlights that use less than 100 watts must be at least partially shielded to reduce light spillover onto nearby properties. Lighting fixtures shall be installed and aimed properly to comply with the Ordinance, and all light sources (bulbs) shall be oriented downward to prevent direct up-lighting. Attached lighting shall not exceed the height of the structure, and freestanding lighting shall not exceed 30 feet in height. The lands encompassing and surrounding the proposed project site are in an agricultural zone district with limited nighttime operations that may be affected by lighting. The nearest residential dwellings, used in conjunction with agricultural activities, is one half (1/2) mile west of the proposed project site. An Outdoor Lighting Plan is not required as the property is not in a commercial or industrial zone district. The proposed project will not conflict with applicable zoning and lighting standards. Therefore, the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Construction

Construction of the project would generally occur during daytime hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m. Construction activities may occur on Saturday and Sunday between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. Overnight construction is not anticipated to occur. In the event that work is performed between dusk and 6:00 a.m., construction crews would use minimal illumination in order to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only and to prevent light spillage onto adjacent properties. Any construction work anticipated outside of the normal work schedule would conform to requirements of local ordinances. Because lighting would be shielded and focused downward and lighting used to illuminate work areas would be turned off by 6:00 p.m., the potential for lighting to adversely impact residential dwellings would be minimal. As a result, construction of the project would not result in a new source of substantial light and impacts to nighttime views would be less than significant.

Increased truck traffic and the transportation of construction materials to the site would temporarily increase glare conditions (due to headlight shine) during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Delivery of heavy equipment and construction supplies will be coordinated to occur during daytime hours so as to limit the potential glare during evening hours. Additionally, the surface area of construction equipment would be minimal compared to the scale of the site. Therefore, construction of the project would not create a new source of substantial glare that would adversely affect day or nighttime views in the area. Impacts would be less than significant.

Operation

Current hours of operations for the receipt of waste are seven (7) days per week from no earlier than 7:00 a.m. to no later than 5:00 p.m. The project proposes an increase in hours of operation from 7:00 a.m. to 7:00 p.m., an additional 2 hours per day. Under existing operations, landfill equipment utilizes affixed lighting, as needed, to maneuver the site to perform disposal activities during periods of darkness. These periods are typically early morning and early evening hours of darkness (based on seasonal factors). Landfill operations are performed in a manner that ensures personnel safety through the utilization of lighting. Under the proposed expanded hours of operation, the project would continue the use of existing landfill heavy equipment and associated equipment lighting on-site. No permanent lighting features would be installed for expanded hours of operation. Under rare conditions, such as an emergency event or special occurrences as defined in Title 27 CCR, the project proponent would rent temporary and portable light generators for use. If deemed necessary for short-term use on-site, the temporary and portable units would be shut down at 7:00 p.m. so as to not operate beyond the proposed hours of operation or affect the nearby residential dwelling. Therefore, operations associated with the expansion for hours of operation of the project would not create a new source of substantial glare that would adversely affect day or nighttime views in the area. Impacts would be less than significant.

The composting operations is proposed to operate seven (7) days per week from 7:00 a.m. to 7:00 p.m., consistent with the proposed hours of operation. Under existing diversion activities associated with the handling of compostable feedstock, equipment utilizes affixed lighting, as needed, to maneuver the project site to perform activities during periods of darkness. These periods are typically early morning and early evening hours of darkness (based on seasonal factors). Under the proposed expanded hours of operation, the project would continue the use of existing diversion equipment and associated equipment lighting on-

site. The design of the composting operation incorporates permanent lighting fixtures. These motion sensitive, directional lighting fixtures are proposed and would be strategically installed around the outside of the proposed composting system. The primary function of lighting is to serve as security for the facility, not for nighttime composting operations or feedstock handling. Permanent lighting fixtures would be shielded and directed downward to minimize potential for glare or spillover onto adjacent properties and roadways, consistent with the Dark Skies Ordinance. A dimming function would be incorporated so lighting can be controlled by the project proponent. In addition, fixtures will be designed to shut off or diminish if no activity is present. Motion sensors would trigger lights to illuminate in the event of unauthorized activity but would turn off within a set timeframe. Lights on the control building would meet California Building Code standards, be controlled by the project proponent, and would not drift onto adjacent properties. However, lighting provided by the proposed project has the potential to adversely affect nighttime views. To avoid such impacts, the project would be required to implement Mitigation Measure MM 4.1-4, which requires compliance with the Dark Sky Ordinance and for all lighting to be directed downwards and shielded. Implementation of Mitigation Measure MM 4.1-4 would minimize the potential for spillover lighting to adversely affect residents and motorists to a less than significant level.

Current hours for ancillary and facility operating hours (non-disposal site activities) is seven (7) days per week from 7:00 a.m. to 5:00 p.m. The proposed project includes a change in ancillary and facility operating hours to 24-hours a day, seven (7) days per week. The project proponent requires access to the site 24 hours a day in the event of, including but not limited to, fire, theft, environmental monitoring system failure, or other form of emergency that is related to landfill and diversion activities. Under the proposed ancillary and facility operating hours, the project would continue the use of existing landfill heavy equipment, diversion equipment, and associated equipment lighting on-site. No permanent lighting features would be installed for expanded ancillary and facility operating hours. Under rare conditions as stated above, such as an emergency event or special occurrences as defined in Title 27 CCR, the project proponent would rent temporary and portable light generators for use. If deemed necessary for short-term use on-site, the temporary and portable units would be shut down at 7:00 p.m. so as to not operate beyond the proposed hours of operation or affect the nearby residential dwelling. If lighting is required beyond 7:00 p.m. due to emergency response or repairs to environmental monitoring systems, the appropriate regulatory agencies would be contacted and appropriate approvals would be received. In addition, all lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Therefore, operations associated with the expansion for ancillary and facility operating hours of the project would not create a new source of substantial glare that would adversely affect day or nighttime views in the area. Impacts would be less than significant.

Mitigation Measures

MM 4.1-1 Adherence with the Kern County Zoning Ordinance, Dark Skies Ordinance (Chapter 19.81) and for all permanent lighting to be directed downwards and shielded to minimize the potential for spillover lighting.

Level of Significance

With implementation of Mitigation Measure MM 4.1-1, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

There are no scenic resources or vistas within the vicinity of the proposed project, and the site does not contain scenic resources. All planned projects within the development area where the proposed project is located will be required to follow the Kern County General Plan guidelines. The proposed project is not within an urbanized area and will not substantially degrade the existing visual character or quality of public views of the site. The project has the potential to create a new source of light or glare that would adversely affect nighttime views. However, implementation of Mitigation Measure 4.1-4, which requires compliance with the Dark Sky Ordinance and for all lighting to be directed downwards and shielded, would be required. Implementation of Mitigation Measure MM 4.1-4 would minimize the potential for spillover lighting to adversely affect residents and motorists to a less than significant level. In addition, each related project would also be required to demonstrate consistency with all applicable planning documents and regulations governing the project site, including the Kern County General Plan and the Kern County Zoning Ordinance. As a result, the proposed project would not result in a cumulative impacts and impacts would be less than significant related to aesthetics.

Mitigation Measures

Implementation of Mitigation Measure MM 4.1-1.

Level of Significance

With Implementation of Mitigation Measure MM 4.1-1, cumulative impacts would be less than significant.

Section 4.2

Agriculture and Forestry Resources

4.2.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to agriculture and forestry resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.2.2 Environmental Setting

The environmental setting for agriculture and forestry resources is the same as that described in Chapter 4.2.2 – *Agriculture, Environmental Setting*, pages 4.2-1 through 4.2-4 – of the 2009 EIR, as noted below.

The property associated with the Shafter-Wasco Recycling & Sanitary Landfill was purchased from Stockdale Development Corporation on December 20, 1971. Prior to the County acquisition of the site, the parcel was open space and used as a landing strip for a crop dusting service. The landfill opened in July 1972, approved by Conditional Use permit (CUP) # 1, Map # 78 on January 6, 1972. From 1999 to 2004, 247 acres of buffer lands were acquired around the landfill to preclude incompatible adjacent development. The project proponent has signed lease agreements to use a portion of the buffer land adjacent to the landfill for agricultural cultivation. As part of the certification of the 2009 EIR, the project proponent petitioned to exclude the landfill and additional owned acreage from Agricultural Preserve No. 8. The petition excluded the permitted facility boundary and an additional 50 acres to the south of the landfill, for a total of 407.69 acres. All County and project proponent owned lands are not under an active Williamson Act contract, as described in the 2009 EIR.

In addition, the following updates have been included to bring the status of the landfill project area current.

Regional Setting

Kern County covers 5,224,258 acres, and as of 2018 included 865,813 acres of important farmland and 1,849,266 acres of grazing land. According to the 2018 Kern County Agricultural Crop Report, agriculture in Kern County was worth \$7,446,152,000, which is an increase of three percent from the 2017 crop value. The top five farming commodities for 2018 were grapes, almonds, pistachios, citrus, and milk, which made up more than \$4.4 billion (71 percent) of the total value (County of Kern, 2018).

Kern County is a growing population and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1, Agricultural Land Use Designation Conversions in 2018**, during 2018, approved amendments re-designated 132.18 acres of agriculturally designated lands for non-agricultural uses. These amendments resulted in a total net conversion of 132.18 acres within unincorporated Kern County (Kern County, 2018). (Note: These various farmland designations are defined in Section 4.2.4, *Regulatory Setting*, below).

TABLE 4.2-1: AGRICULTURAL LAND USE DESIGNATION CONVERSIONS IN 2018					
Project/Applicant	Case Number	Document	From Map Code	To Map Code	Acreage Converted
Afinar, Inc. by Bernard Salgado	GPA 5, Map 143-41	KCGP	8.1/2.3	5.7/2.3	-21.18
Highway 58, LLC by EPD Solutions	SPA 2, Map 30	Lost Hills Specific Plan	4.1 (Agriculture)	4.1 (Industrial)	-112
Total Acreage Converted (net)					-132.18
SOURCE: Kern County, 2018.					

Local Setting

Project Site Designation

Agriculture is the predominant land use surrounding the project site and amidst intensely cultivated fields. The project site is entirely bordered to the north, east, south, and west by agricultural development and is located within the administrative boundaries of the Kern County General Plan. Surrounding properties within an approximate two-mile radius are currently used for agricultural cultivation except for four dairies. The site has been utilized for landfill operations, access roads, environmental monitoring wells, diversion activities, drainage features, and agricultural farming.

The existing landfill is compatible with adjacent farmland and vice-versa. All non-County owned parcels immediately adjacent to the project site are designated as Prime Farmland and are under active Williamson Act contracts which encourages continued compatible agricultural land use. However, the County owned project area is not under an active Williamson Act contract, as described in the 2009 EIR. As part of the certification of the 2009 EIR, the project proponent also petitioned to exclude the landfill and additional acreage owned by the County from Agricultural Preserve No. 8. The petition excluded the permitted facility boundary and an additional 50 acres to the south of the landfill, for a total of 407.69 acres.

County owned parcels within the project area are designated by the Department of Conservation as Vacant or Disturbed Land (north-east buffer), Grazing Land (north-west buffer), Urban and Built-Up Land (landfill), Prime Farmland (southern buffer), and Farmland of Statewide Importance (southernmost area of southern buffer). See **Figure 4.2-1, Department of Conservation Farmland Mapping Designations**.

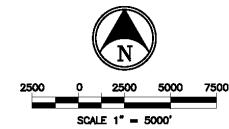
The project is identified as Kern County Assessor's Parcel Numbers (APNs) 088-100-38, 088-100-40, and 088-100-08 (**Figure 4.2-2, Assessor's Parcel Number Map**). Below is a summary of each parcel. None of these parcels are under a Williamson Act Contract, nor is it within Agricultural Preserve No. 8 (**Figure 4.2-3, Williamson Act**). After certification of the 2009 EIR, an agricultural deed covenant was placed on 40.09

acres of APN 088-100-40 and 40.05 acres of APN 088-100-38 in 2010 to mitigate the loss of agricultural land.

APN 088-100-38 totals 250.42 acres that includes the existing 160-acre landfill footprint with existing permitted disposal footprint of 135 acres and 90.42 acres of solid waste facility buffer dedicated to the existing diversion area and future soil borrow area. The 160-acre area is designated 3.4 (Solid Waste Disposal Facility) and 3.4.1 (Solid Waste Disposal Facility Buffer) and zoned A (Exclusive Agriculture).

APN 088-100-40 totals 80 acres that includes the southwest landfill buffer area and has a history of agricultural cultivation under a long-term lease agreement with the project proponent. The parcel is designated 3.4.1 (Solid Waste Disposal Facility Buffer) and zoned A (Exclusive Agriculture).

APN 088-100-08 totals 77.27 acres that includes the south landfill buffer area and has a long history of agricultural cultivation under long-term lease with the project proponent. The parcel is designated 3.4.1 (Solid Waste Disposal Facility Buffer) for 20 acres and 8.1 (Intensive Agriculture) for 50.27 acres and zoned A (Exclusive Agriculture). According to the Farmland Mapping and Monitoring Program (FMMP) inventory, 13.75 acres in the southernmost area of this parcel is designated as Farmland of Statewide Importance.

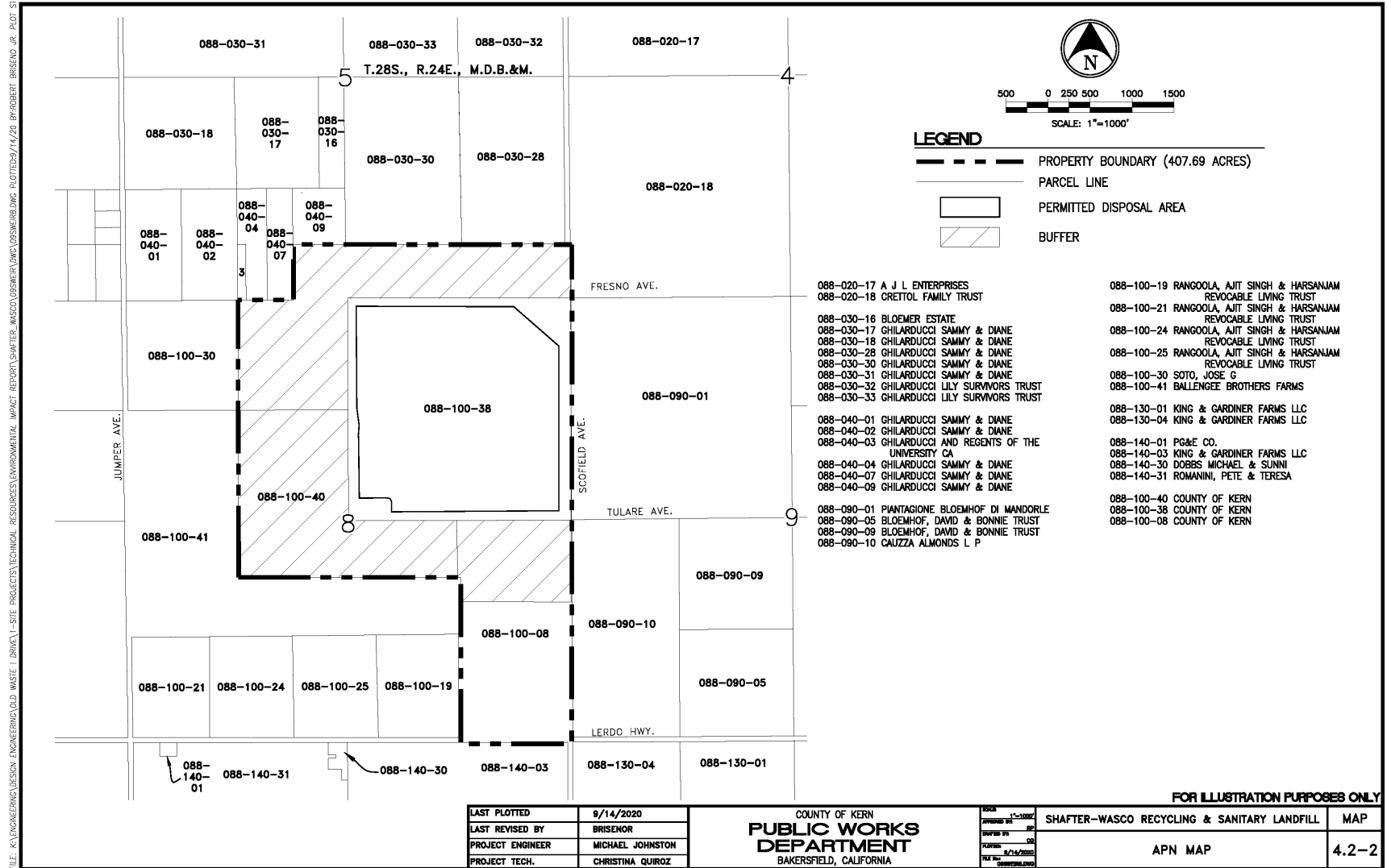


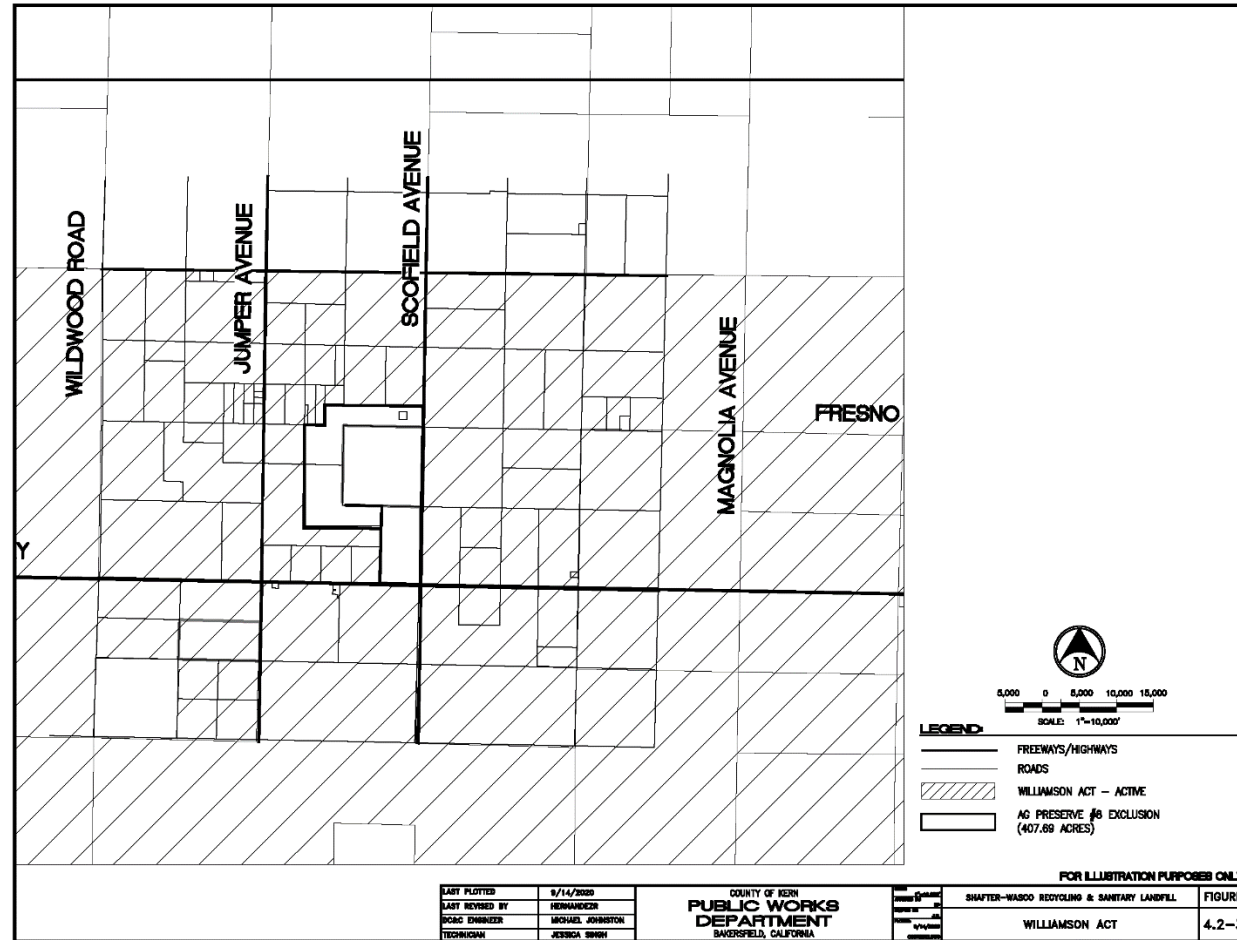
LEGEND

- — — — — PROPERTY BOUNDARY (407.69 ACRES)
- — — — — PERMITTED FACILITY BOUNDARY (357.48 ACRES)
- — — — — HIGHWAY
- — — — — ROADS
- [S BOUNDARY] FARMLAND OF STATEWIDE IMPORTANCE
- [P BOUNDARY] PRIME FARMLAND
- [D BOUNDARY] URBAN & BUILT-UP LAND
- [G BOUNDARY] GRAZING LAND
- [V BOUNDARY] VACANT OR DISTURBED LAND

FOR ILLUSTRATION PURPOSES ONLY

KERN COUNTY PUBLIC WORKS DEPARTMENT BAKERSFIELD, CALIFORNIA		APPROVED BY: BP	SHAFTER-WASCO RECYCLING AND SANITARY LANDFILL	FIGURE
		REVIEWED BY: BP		
		DRAWN BY: AB	DEPARTMENT OF CONSERVATION	
		CHECKED BY: CP/2020	FARMLAND MAPPING DESIGNATIONS	4.2-1
		FILE NO: 4480210 - 0200		





4.2.3 Regulatory Setting

The regulatory setting for agriculture and forestry resources is the same as that described in Chapter 4.2.3 – *Agriculture, Regulatory Setting*, pages 4.2-6 through 4.2-8 – of the 2009 EIR. The 2009 EIR discussed Williamson Act contracts, Agricultural Preserve designations and Farmland Security Zone contracts, however, these designations and contracts no longer apply to the project, as they were removed with Board of Supervisors approval of the 2009 EIR.

The 2009 EIR did not note any applicable federal regulations concerning agricultural resources.

The following updates have been included to bring the status of the landfill project area current, in regards to agriculture and forestry resources.

Federal

Farmland Protection Policy Act (7 United States Code [USC] Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmland. Under the FPPA, the term “farmland” includes Prime farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA assures that, to the extent possible, federal programs are administered to be compatible with State, and local units of government, and private programs and policies to protect farmland.

In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 27, 1994. Federal Agencies are required to develop and review their policies and procedures related to implementing the FPPA every 2 years.

The FPPA does not authorize the federal government to regulate the use of private or non-federal land or, in any way, affect the property rights of owners. Projects are subject to FPPA if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a Federal agency or rely on assistance from a Federal agency (Natural Resources Conservation Service [NRCS], 2019).

State

California Department of Conservation, Division of Land Resource Protection

The Department of Conservation (DOC) applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California’s agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications.

The list below describes the categories mapped by the DOC (DOC, 2016) through the FMMP. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as “farmland.”

- **Prime Farmland.** Farmland that has the ideal combination of physical and chemical features. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and long-term agricultural production. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or lower moisture content. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland.** Land with lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include land that supports non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been used for crops at some time during the four years prior to the mapping date.
- **Farmland of Local Importance.** Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups with an interest in grazing activities.
- **Urban and Built-Up Land.** Land that is developed with structures that have been built to a density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land supports residential, industrial, commercial, institutional, public administrative uses; railroad and other transportation yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; water control structures; and other developed uses.
- **Other Land.** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Undeveloped and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Public Resources Code Section 21060.1

Public Resources Code Section 21060.1 uses the FMMP to define agricultural land for the purposes of assessing environmental impacts. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and analyze the conversion of such lands. The FMMP provides analysis pertaining to agricultural land use changes throughout California.

Local

Kern County General Plan

The Kern County General Plan states that agriculture is vital to the future of Kern County and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to other uses (e.g., industrial or residential). The Kern County General Plan includes three designations for agricultural land:

- **8.1 Intensive Agriculture (minimum parcel size 20 acres gross)** – lands devoted to the production of irrigated crops or having potential for such use;

Uses shall include, but are not limited to, the following: Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock ornamental flowers and Christmas trees; fish farms'; bee keeping'; ranch and farm facilities and related uses; one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres; mineral; aggregate; and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; and agricultural industries pursuant to provision of the Kern County Zoning Ordinance, and land within development areas subject to significant physical constraints.

- **8.2 Resource Reserve (minimum parcel size is 20 acres gross, except to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross)** – lands devoted to areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district; and
- **8.3 Extensive Agriculture (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – lands devoted to uses involving large amounts of land with relatively low value-per-acre yields such as livestock grazing, dry-land farming, and woodlands.

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

1.9 Resource

Goals

- | | |
|--------|--|
| Goal 1 | To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County. |
| Goal 2 | Protect areas of important mineral, petroleum, and agricultural resource potential for future use. |
| Goal 5 | Conserve prime agriculture lands from premature conversion. |

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 5 | Areas of low intensity agriculture use (Map Code 8.2 (Resource Reserve), Map Code 8.3 (Extensive Agriculture), Map Code 8.5 (Resource Management) should be of an economically viable size in order to participate in the State Williamson Act Program/Farmland Security Zone Contract. |

Implementation Measure

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|------------|---|
| Measure F: | Prime agricultural lands, according to the Kern County Interim-Important Farmlands Map produced by the Department of Conservation, which have Class I or II soils and a surface |
|------------|---|

delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

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

1.10.1 Public Services and Facilities:

Policies

- | | |
|--------|--|
| Policy | 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 designation 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. |
| Policy | All solid waste facility disposal facilities shall designate a buffer around the permitted disposal area as defined by the Map Code 3.4 land use designation. |

Implementation Measures

- Each adopted site for a solid waste disposal facility (Map Code 3.4) shall be depicted on the General Plan map and on a map in KCGP Appendix E, delineating the boundaries of the facility and existing permanent dwelling units within 1,320 feet of the facility's boundary.
- Solid Waste Disposal Facilities approved prior to the adoption of this General Plan shall strive to have a 660-foot buffer around the permitted disposal area as defined by the 3.4 land use designation. Land, which is not owned by the Solid Waste Disposal Facility and is within 1,320 feet of a permitted disposal facility, shall include a 2.10 (Nearby Waste Facility) combining land use designation.
- The uses that are allowed within the Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) land use designation shall be listed within the conditional use permit approved for the solid waste disposal facility or as provided for in the approved solid waste facility permit.

General Plan and Zoning Compatibility Matrix

The State (Planning and Zoning Law Section 65860) requires that consistency exist between the General Plan and the Zoning Ordinance. The General Plan and Zoning Consistency matrix is a method of defining consistency by comparing each zone district, including lands zoned for agriculture use, with land use categories set forth in the General Plan. Implementation of these goals and policies serve to direct growth and promote agricultural conservation through development in accordance with the General Plan. According to the Kern County General Plan Designations and Zone District Consistency Matrix of the Kern County General Plan, sanitary landfills and their buffers are a compatible land use adjacent to agriculture lands.

Kern County Zoning Ordinance

The Kern County Zoning Ordinance establishes basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to State law, the zoning ordinance must be consistent with the Kern County General Plan. The basic intent of the Kern County Zoning Ordinance is to promote and protect the public health, safety, and welfare via the orderly regulation of the land uses throughout the unincorporated area of the County. The zoning ordinance applies to all property in unincorporated Kern county, except land owned by the United States or any of its agencies.

The project site is within the A (Exclusive Agriculture) zoning district. Allowable land uses within an A zone are set forth in Sections 19.12.020 and 19.12.030 of the Kern County Zoning Ordinance and include growing and harvesting crops, breeding and raising animals and agricultural industries. Other allowable uses require a conditional use permit (CUP). As further described in Chapter 3, *Project Description*, a modification to the existing CUP would be required in order to allow for the proposed expansion of landfill operations, ancillary activities, and composting facility in the A zone.

4.2.4 Impacts and Mitigation Measures

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

Methodology

The methodology for agriculture and forestry resources is the same as that described in Section 4.2.4 of the 2009 EIR, as noted below.

The potential impacts associated with the proposed project are evaluated on a qualitative and quantitative basis through a comparison of the anticipated project effects on agricultural activities. A change in the land use will normally be determined to be significant if the effects described in the Thresholds of Significance occur (see California Code of Regs., Title 14, §15064.7(a)). The evaluation of project impacts as based on professional judgment, analysis of the County General Plan's agricultural resources policies and the significance criteria established by Kern County CEQA Implementation Document which the County has determined to be appropriate criteria for this SEIR.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine if a project could potentially have a significant adverse effect related to agriculture and forestry resources. A project could have a significant impact related to agriculture and forestry resources if it would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural uses;

- b. Conflict with existing zoning for agricultural use or a Williamson Act Contract;
- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- d. Result in the loss of forestland or conversion of forestland to non-forest use;
- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use; or
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservancy Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code).

Project Impacts

Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural uses.

Direct Impacts

County owned parcels within the project area are designated by the Department of Conservation as follows. APN 088-100-38 is designated as Urban and Built-Up Land (landfill unit), Vacant or Disturbed Land (northeast buffer), and Grazing Land and Prime Farmland (northwest buffer). APN 088-100-40 is designated as Prime Farmland (western and southern buffer). Lastly, APN 088-100-08 is designated as Prime Farmland (southern buffer) and Farmland of Statewide Importance (southernmost area of southern buffer). See **Figure 4.2-1, Department of Conservation Farmland Mapping Designations**.

The proposed project includes a Kern County General Plan Amendment from Map Code 3.4.1 (Solid Waste Facility Buffer) to Map Code 3.7 (Other Waste Facilities) for 20 acres and from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Facility Buffer) for 50.21 acres. The 13.75 acres in the southernmost area of APN 088-100-08 is designated as Farmland of Statewide Importance. The zone district for the entire project area will remain A (Exclusive Agriculture), which is compatible with Map Codes 3.4.1 and 3.7. Hence, the project will not result in the conversion of Farmland as the zoning districts will remain unchanged.

The southern landfill buffer area will continue to be used for ancillary uses to the landfill such as environmental monitoring and short- and long-term agricultural lease and cultivation. These ancillary uses will not interfere with or lead to further conversion of farmland activities. Should the project proponent determine lands identified as Farmland of Statewide Importance are required for development of waste recycling and diversion activities, serve as a source of soil borrow for closure activities, utilized for stormwater detention or retention pond, or other actions that result in the permanent loss of farmland, implementation of Mitigation Measure 4.2-1 will occur.

Additionally, southern buffer areas will continue to be available as appropriate, to be leased for agricultural purposes. If development such as waste recycling and diversion activities does occur in the buffer area, structures will be removed after closure of the Shafter-Wasco landfill and buffer lands may be returned to agricultural production. Therefore, implementation of the project would not result in the conversion of Farmland to a nonagricultural use and impacts will be less than significant.

The impacts of converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (as designated by the California Department of Conservation, Farmland Mapping and Monitoring Program) to non-agricultural use were determined to be less than significant with mitigation measures incorporated.

Indirect Impacts

Agricultural cultivation is the foremost land use surrounding the site. Agricultural uses within a one-mile radius include, but are not limited to, orchards, almonds, pistachios, citrus, irrigated row crops, and a variety of vegetable crops. Additionally, land uses within a one-mile radius include four dairies, irrigated land, a cotton gin, and farm dwellings. As described, the project would expand the existing landfill hours of operations and allow for the operation of a composting facility. The CUP would be modified to allow for the proposed operation and would not indirectly impact or convert agricultural land to nonagricultural uses. Therefore, impacts would be less than significant.

Mitigation Measures

MM 4.2-1 Prior to the Board of Supervisors approval of a construction contract that will permanently remove prime farmland from agricultural production, the applicant shall provide written evidence of an agricultural deed covenant to mitigate the loss of agricultural land at a ratio of 1:1 for net acreage before conversion. Net acreage is to be calculated based on excluding existing roads and areas already removed. A plot plan shall be submitted substantiating the net acreage calculation along with written evidence of compliance. Mitigation land will meet the definition of prime farmland or farmland of statewide importance established by the State Department of Conservation. Mitigation can be on qualifying land within the San Joaquin Valley or outside the San Joaquin Valley with written evidence that the same or equivalent crops can be produced on the mitigation land.

Level of Significance

With implementation of Mitigation Measure MM 4.2-1, impacts would be less than significant.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or a Williamson Act Contract.

The entire project site is currently zoned A (Exclusive Agriculture). According to the Kern County General Plan Designations and Zone District Consistency Matrix, the “A” Zone District is consistent with Map Codes 3.4, 3.4.1, and 3.7. All non-County owned parcels immediately adjacent to the project are designated as Prime Farmland and are under active Williamson Act contracts, which encourages continued compatible agricultural land use. The County of Kern owned properties located within the project area are not under Williamson Act Contract and are excluded from Agricultural Preserve No. 8. Therefore, the project would not result in a conflict with existing zoning for agricultural use or a Williamson Act Contract and impacts would be less than significant.

As described in the Chapter 3, *Project Description*, the existing landfill operation and diversion activities were initially approved in September 2009 by a CUP. The current project involves a request to modify the existing CUP to include the expansion of landfill operations and operation of a composting facility. With this discretionary approval, the project would be consistent with the A (Exclusive Agriculture) zoning designation which allows green waste composting facilities as a conditional use. Therefore, with approval of the modified CUP, the project would not conflict with existing zoning for agricultural use and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-3: The project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))

The project site is not located within forestland, timberland, or timberland zoned Timberland Production. All lands within the project site are zoned A (Exclusive Agriculture). There will be no conflict with existing zoning or cause the rezoning of forestland. Therefore, implementation of the proposed project will have no impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impacts would occur.

Impact 4.2-4: The project would result in the loss of forestland or conversion of forestland to non-forest use

The project site and surrounding vicinity do not support forestland and are not zoned as forest land or timberlands. All lands associated within the site are zoned A (Exclusive Agriculture). Therefore, implementation of the proposed project will not result in the loss of forestland or conversion to non-forest use and will have no impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impacts would occur.

Impact 4.2-5: The project would involve other changes in the existing environment, which due to their location or nature, would result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use.

After certification of the 2009 EIR, an agricultural deed covenant was placed on 40.09 acres of APN 088-100-40 and 40.05 acres of APN 088-100-38 in 2010 to mitigate the loss of agricultural land from the existing diversion programs and recycling operations. The proposed composting facility and self-haul recycling facility will be constructed and operated within the existing northern buffer (APN 088-100-38) and would not result in the conversion of existing farmland into a nonagricultural use.

Regarding the southern buffer area, analysis is provided in Impact 4.2-1 above. The southern landfill buffer area will continue to be used for ancillary uses to the landfill such as environmental monitoring and short- and long-term agricultural lease and cultivation. These ancillary uses will not interfere with or lead to further conversion of farmland activities. Should the project proponent determine lands identified as Farmland of Statewide Importance are required for development of waste recycling and diversion activities, serve as a source of soil borrow for closure activities, utilized for stormwater detention or retention pond, or other actions that result in the permanent loss of farmland, implementation of Mitigation Measure 4.2-1, including issuance of an agricultural deed covenant to mitigate loss of agricultural land at a ratio of 1:1 for the net acreage before conversion, will occur. Southern buffer areas will continue to be available as appropriate, to be leased for agricultural purposes. If development such as waste recycling and diversion activities does occur in the buffer area, structures will be removed after closure of the Shafter-Wasco landfill and buffer lands may be returned to agricultural production. Therefore, implementation of the project would not result in the conversion of Farmland to a nonagricultural use and impacts will be less than significant.

The project site is not zoned for forestland, timberland, or contain any forested areas nor are the surrounding properties. No impacts related to the conversion of forestland to non-forest use would occur. Therefore, due to a lack of forest land, the project would not involve any changes to the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Mitigation Measures

Implementation of Mitigation Measure MM 4.2-1 would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.2-1, impacts would be less than significant.

Impact 4.2-6: The project would result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code.

No lands within the project site are subject to a Williamson Act contract or Farmland Security Zone contract. Additionally, the project would not include activities that could restrict or impair agricultural production on adjacent land or interfere with the Williamson Act Land Use Contract of surrounding lands.

Therefore, the project would not result in the cancellation of an open space contract for any parcel of 100 or more acres (Section 15206[b][3] Public Resources Code) and no impacts would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impacts would occur.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description*, of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-10, *Cumulative Project List*, in Chapter 3 of this SEIR, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope for cumulative agricultural and forest impacts is the San Joaquin portion of Kern County. This geographic scope was selected because the land within the region possesses relatively similar agricultural opportunities, soil conditions, climate, and water availability. As shown in Table 3-10, there are 17 projects proposed and only a small percentage of these projects would result in the conversion of agricultural land to a non-agricultural use.

As described in Section 4.2.2, *Environmental Setting, Regional Setting*, Kern County is developing rapidly and ranks high on the list of California counties with issues related to urbanization and the loss of farmland. However, as shown in Table 4.2-1, approved amendments re-designated 132.18 acres of agriculturally designated lands for non-agricultural uses. These amendments resulted in a total net conversion of 132.18 acres within unincorporated Kern County (Kern County, 2018).

The proposed project may result in the loss of farmland in the southern buffer area if the project proponent determines lands identified as Farmland of Statewide Importance are required for development of waste recycling and diversion activities, serve as a source of soil borrow for closure activities, utilized for stormwater detention or retention pond, or other actions that result in the permanent loss of farmland. However, lands associated with the proposed project are within the A (Exclusive Agriculture) zoning district and will remain unchanged as a result of the project implementation. County owned project area is not under an active Williamson Act contract and is excluded from Agricultural Preserve No. 8, as described in the 2009 EIR. Implementation of Mitigation Measure MM 4.2-1 will occur to reduce impacts to less than significant. The southern landfill buffer area will continue to be used for ancillary uses to the landfill such as environmental monitoring and short- and long-term agricultural lease and cultivation. These ancillary uses will not interfere with or lead to further conversion of farmland activities.

Therefore, the proposed project's contribution to cumulative impacts related to agriculture in Kern County would be considered to be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.2-1 would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.2-1, cumulative impacts would be less than significant.

4.3.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to air quality associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

This section of the SEIR describes the regional and local air quality conditions and regulatory setting of the project site and evaluates the potential air quality impacts associated with construction and operation of the proposed project, including any mitigation measures required to reduce these impacts, if applicable. The analysis includes evaluation of criteria air pollutants and their precursors, toxic air contaminants, and odors. Greenhouse gases are addressed in Chapter 4.4, *Greenhouse Gas*, of this SEIR.

This analysis is being prepared in accordance with the requirements and guidelines of CEQA. The analysis is largely based on information provided in the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020), prepared by SCS Engineers for the project (Appendix D of this SEIR). The report was prepared in accordance with the San Joaquin Valley Air Pollution Control District’s (SJVAPCD) *Guidelines for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015), *APR 1906, Framework for Performing Health Risk Assessments* (SJVAPCD, 2018a), *APR 2030, Project Ambient Air Quality Analysis Applicability Determination* (SJVAPCD, 2018b), and *APR 1925- Policy for District Rule 2201 AAQA Modeling*, (SJVAPCD, 2014).

4.3.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project site is located within the existing 407.69-acre Shafter-Wasco Recycling & Sanitary (RSLF) at 17621 Scofield Avenue, Shafter, CA 93263. The Shafter-Wasco RSLF, a class III municipal solid waste landfill, operates under an existing conditional use permit (CUP), Solid Waste Facility Permit, Waste Discharge Requirements, and Permit to Operate. Operations within the currently approved CUP boundary account for 357.48 acres of the 407.69 acres owned by the applicant. The proposed modifications to the currently approved CUP boundary would include an additional 50.21 acres of landfill buffer property and designate 20 acres for the compost facility with no change to the 135-acre permitted disposal area, totaling 407.69 acres. Approximately 22,500 tons per year of organic feedstocks is currently stockpiled, handled, processed, and transferred through the diversion area of the

Shafter-Wasco RSLF and transported off site to a permitted composting facility. This includes green material, food material, vegetative food material, organic waste, manure, and agricultural material.

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic drainage features. The project site is located in the Kern County portion of the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of SJVAPCD. The SJVAB includes the western portion of Kern County. The SJVAB is separated from the Mojave Desert Air Basin to the southeast by the Tehachapi Mountains and the south end of the Sierra Nevada Mountains. The project site is located in unincorporated Kern County, west of the City of Shafter and approximately 20 miles northwest of the City of Bakersfield.

Topography and Meteorology

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects ambient air quality.

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest.

Air enters the Valley through the Carquinez strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems.

The winter season characteristically has the poorest conditions for vertical mixing of the entire year. Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Bakersfield monitoring station (No. 040442), which is located approximately 20 miles southeast of the project site. This

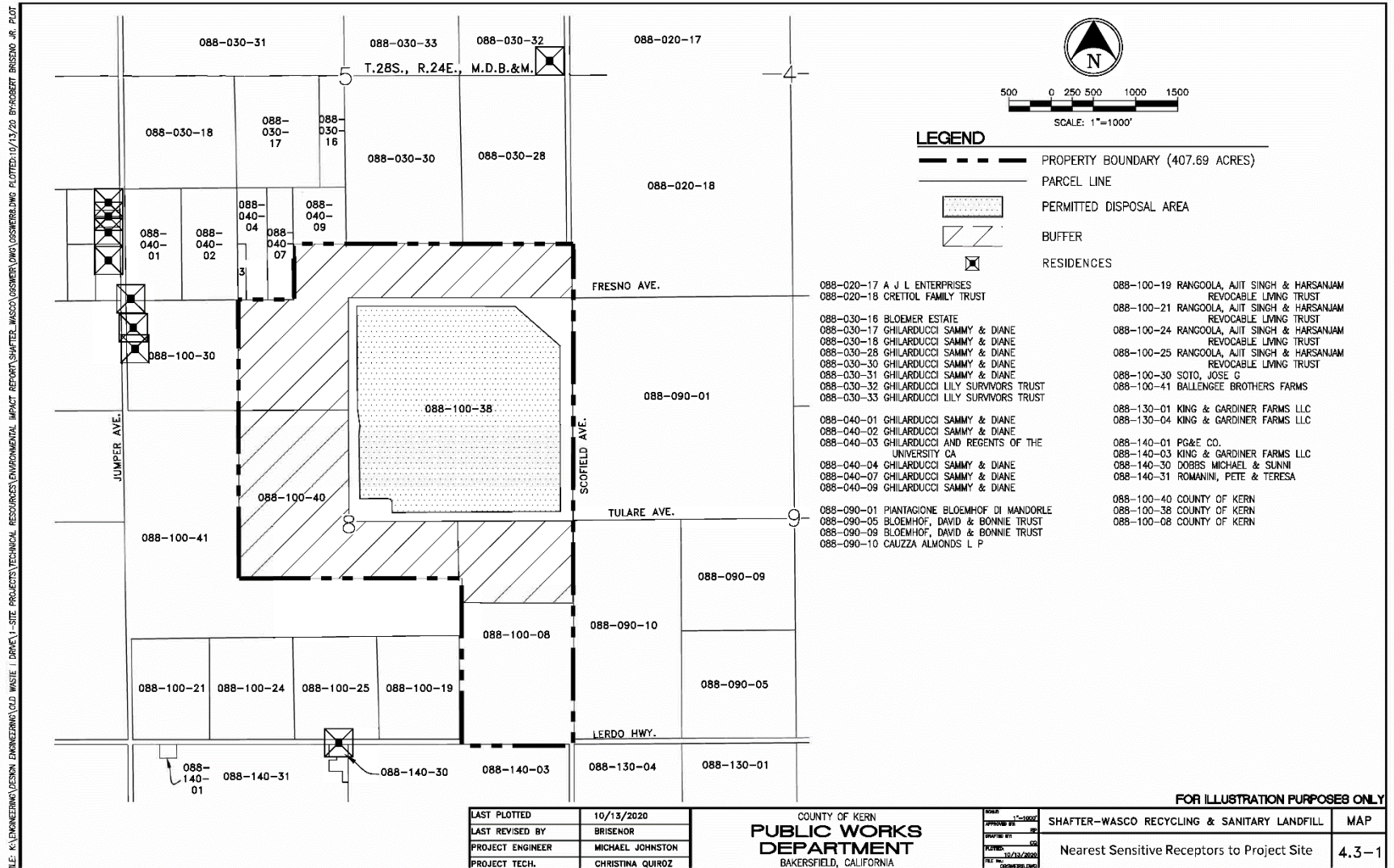
data is provided in **Table 4.3-1, Period of Record Monthly Climate Summary**, which contains average precipitation data and average maximum and minimum temperature data recorded at the Bakersfield monitoring station from October 1937 through June 2016.

Table 4.3-1: Period of Record Monthly Climate Summary (Period of Record: 10/01/1937 to 06/09/2016)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	57.4	63.6	69.0	75.7	84.2	92.1	98.6	96.7	91.0	80.5	67.3	57.8	77.8
Average Min. Temperature (F)	38.5	42.1	45.4	49.7	56.6	63.3	69.2	67.7	63.1	54.0	44.1	38.5	52.7
Average Total Precipitation (in.)	1.04	1.16	1.12	0.67	0.21	0.07	0.01	0.04	0.10	0.30	0.59	0.85	6.17
Source – WRCC, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0442													

Sensitive Receptors

Sensitive receptors are considered locations with people who are more sensitive to the effects of air pollutants. The reasons for increased sensitivity include preexisting health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be sensitive receptors because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods of time which results in greater exposure to ambient air quality. Recreational uses, such as a parks and hiking trails, are also considered sensitive due to the greater exposure to ambient concentrations of pollutants because vigorous exercise associated with some forms of recreation places a high demand on the human respiratory system.

The project site is located in a heavy agriculturally developed area with very limited residential and commercial development. Four rural residences are located within a two-mile radius of the property; two of the residences are located approximately one-half mile to the west, one residence is located approximately 1.25 miles to the south, and one residence is located approximately 1.0 mile to the north of the project boundary. There are no schools, daycare centers, or senior centers identified within two miles of the project. **Figure 4.3-1, Nearest Sensitive Receptors to the Project Site**, identifies the location of the sensitive receptors.



National and State Ambient Air Quality Standards

National and California Ambient Air Quality Standards

Regulation of air pollution is achieved through both federal and State ambient air quality standards and permitted emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (specifically PM₁₀ and PM_{2.5}), and lead (Pb). These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

California Ambient Air Quality Standards (CAAQS) are established by the State of California and are in some cases more stringent than the NAAQS and include additional pollutants than only the criteria pollutants. Pollutants covered by the CAAQS include O₃, PM₁₀, PM_{2.5}, CO, NO₂, SO₂, Pb, sulfates, hydrogen sulfide (H₂S), and vinyl chloride.

Air quality standards at the State and national level prescribe both a maximum allowable concentration of the pollutant and an averaging time for the measurement. The pollutant concentrations and exposure times are based on reviews of scientific studies that examine the impacts of pollutant exposure on human health, crops, animals, vegetation, and building materials. Some adverse effects result from short-term, high-concentration (acute) exposures while others may be caused from longer-term (chronic) exposures to more mildly elevated concentrations. Some pollutants are known to cause harm from both acute and chronic exposures and have two air quality standards as a result. **Table 4.3-2, *Summary of Ambient Air Quality Standards and SJVAPCD Attainment Status***, summarizes the current CAAQS and NAAQS as well as SJVAPCD’s attainment status. **Table 4.3-3, *Existing Air Quality Monitoring Data in Proposed Project Area***, contains a summary of human health and environmental effects of the for the key criteria pollutants.

Attainment Status

If a pollutant concentration in an area is lower than the established standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

Table 4.3-2: Summary of Ambient Air Quality Standards and SJVAPCD Attainment Status

Pollutant	Averaging Time	California Standard	Attainment Status (California)	Primary National Standard	Attainment Status (National)
Ozone (O ₃)	1-hour	0.09 ppm	Severe Non-Attainment	No Standard	Unclassified
	8-hour	0.070 ppm	Non-Attainment	0.075 ppm	Extreme Non-Attainment
PM ₁₀	24-hour	50 µg/m ³	Non-Attainment	150 µg/m ³	Attainment
	Annual	20 µg/m ³	Non-Attainment	No Standard	Unclassified
PM _{2.5}	24-hour	No Standard	Unclassified	35 µg/m ³	Non-Attainment
	Annual	12 µg/m ³ – 3-year avg.	Non-Attainment	12.0 µg/m ³	Non-Attainment
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment
	8-hour	9.0 ppm	Attainment	9 ppm	Attainment
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	Attainment	100 ppb	Attainment
	Annual	0.030 ppm	Attainment	53 ppb	Attainment
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	Attainment	75 ppb	Attainment
	3-hour	No Standard	Attainment	0.5 ppm	Attainment
	24-hour	0.04 ppm	Attainment	No Standard	Unclassified
Lead (Pb)	30-day avg.	1.5 µg/m ³	Attainment	No Standard	Unclassified
	Quarterly Average	No Standard	Unclassified	1.5 µg/m ³	Attainment
	Rolling 3-Month Average	No Standard	Unclassified	0.15 µg/m ³	Attainment

Source: CARB, May 4, 2016 and SJVAPCD website August 11, 2020; <https://www.valleyair.org/aqinfo/attainment.htm>.

As shown in **Table 4.3-2, Summary of Ambient Air Quality Standards and SJVAPCD Attainment Status**, the SJVAPCD is currently classified as severe non-attainment for the one-hour state ozone standard, and non-attainment for the state and national 8-hour ozone standards. Additionally, the SJVAPCD is classified as non-attainment for the state 24-hour PM₁₀, and non-attainment for the state and national 24-hour PM_{2.5} standards. The SJVAPCD is currently in attainment and/or unclassified status for the ambient air quality standards of all of the other criterial pollutants. California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected to occur under the proposed project and, thus, these pollutants are not addressed further in this SEIR.

Local Air Quality

The SJVAPCD and neighboring air districts operate a regional air quality monitoring network that regularly measures the concentrations of the five major CAPs for which state or federal ambient air quality standards exist. Air quality conditions in California have improved significantly since the California Air Resources Board (CARB) was established in 1967, resulting in a reduction in ambient air quality concentrations and the number of days that the standards are exceeded.

Ambient Air Monitoring

Table 4.3-3, *Existing Air Quality Monitoring Data in Proposed Project Area*, presents a summary of the last three years of monitoring data near the project area. Exceedances of federal and state standards for O₃, and the state standard for PM₁₀, and federal and state standards for PM_{2.5} continue to occur.

Table 4.3-3: Existing Air Quality Monitoring Data in Proposed Project Area			
Pollutant^a	2016	2017	2018
Ozone (O₃) (1-hour)^b			
Highest 1-Hour (ppm)	0.096	0.094	0.098
Days > 0.09 ppm (State)	1	0	4
Ozone (O₃) (8-hour)^b			
Highest 8-hour State (ppm)	0.087	.082	.09
Days > 0.070 (State)	50	30	35
Carbon Monoxide (CO) (1-hour)^c			
Highest 1-Hour (ppm)	1.4	1.8	1.9
Days ≥ Federal Standard	0	0	0
Carbon Monoxide (CO) (8-hour)^c			
Highest 8-hour (ppm)	1.1	1.2	1.3
Days ≥ Federal Standard	0	0	0
Respirable Particulate Matter (PM₁₀) (24-Hour)^d			
Highest 24-hour (State) (µg/m ³)	92.2	143.6	142.0
Measured days > Standard (State)	21	16	13
Respirable Particulate Matter (PM₁₀) (Annual)^d			
Annual Average (State) (µg/m ³)	40.9	42.6	Insufficient Data
Fine Particulate Matter (PM_{2.5}) (24-Hour)^d			
Highest 24-hour (National) (µg/m ³)	66.4	101.8	98.5
Measured days > Standard (National)	23	28	36
Fine Particulate Matter (PM_{2.5}) (Annual)^d			
Annual Average ug/m ³ (State)	16	15.9	15.7
Nitrogen Dioxide (NO₂) (1-Hour)^d			
Highest 1-hour (National) (ppb)	58.1	66.0	61.5
Days > National Standard	0	0	0
Nitrogen Dioxide (NO₂) (Annual)^d			
Annual Average (State) (ppb)	12	12	12
<p>a. Data not provided for Pb, H₂S, Vinyl Chloride, or Visibility Reducing Particles as these pollutants are not currently monitored within the SJVAB. All other data obtained from CARB's iADAM website (CARB 2020). No sulfur dioxide monitoring stations near the Facility nor within the county of Kern.</p> <p>b. Data derived from the Shafter-Walker Street monitoring station in Kern County. Source: https://www.arb.ca.gov/adam/topfour/topfour1.php</p> <p>c. Data derived from the 2000 South Union Avenue monitoring station in Bakersfield. Source: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report</p> <p>d. Data derived from the 5558 California Avenue monitoring station in Bakersfield: Source https://www.arb.ca.gov/adam/topfour/topfour1.php</p>			

Common Air Pollutants

The following is a general description of the source and health effects from the government regulated criteria air pollutants of ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (specifically PM₁₀ and PM_{2.5}), and lead (Pb); other pollutants of hydrogen sulfide (H₂S), vinyl chloride, and visibility reducing particles; toxic air contaminants (TAC) of diesel particulate matter (DPM); and Airborne Fungus (Valley Fever). **Table 4.3-4, Summary of Health and Environmental Effects of the Key Criteria Pollutants**, presents a summary of health and environmental effects from the criteria air pollutants.

Table 4.3-4: Summary of Health and Environmental Effects of the Key Criteria Pollutants			
Pollutant	Health Effects	Environmental Effects	Examples of Sources
O ₃	Respiratory symptoms Worsening of lung disease leading to premature death Damage to lung tissue	Crop, forest, and ecosystem damage Damage to a variety of materials, including rubber, plastics, fabrics, paint and metals	Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
PM ₁₀	Premature death & hospitalization, primarily for worsening of respiratory disease	Reduced visibility and material soiling	Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
PM _{2.5}	Premature death Hospitalization for worsening of cardiovascular disease Hospitalization for respiratory disease Asthma-related emergency room visits Increased symptoms, increased inhaler usage	Reduced visibility and material soiling	Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
CO	Chest pain in patients with heart disease Headache Light-headedness Reduced mental alertness	None	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
NO ₂	Lung irritation Enhanced allergic responses	Reacts to form acid precipitation and deposition	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves

Table 4.3-4: Summary of Health and Environmental Effects of the Key Criteria Pollutants			
Pollutant	Health Effects	Environmental Effects	Examples of Sources
SO ₂	Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits	Reacts to form acid precipitation and deposition	Coal and oil burning power plants, refineries, and diesel engines
Pb	Impaired mental functioning in children Learning disabilities in children Brain and kidney damage	Soil and water pollutant	Metal smelters, resource recovery, leaded gasoline, lead paint
Source: CARB, 2020.			

Ozone (O₃)

Ozone, or smog, is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between reactive organic gasses (ROG) (also called VOC) and NO_x in the presence of sunlight. Ozone formation is greatest on warm, windless, sunny days. The main sources of NO_x and ROG – often referred to as ozone precursors – are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels and biogenic sources. Mobile sources are the single largest source of O₃ precursors in the SJVAB. Tailpipe emissions of ROG are highest during cold starts, hard acceleration, stop-and-go conditions, and slow speeds. ROG emission rates from on-highway vehicles decline (on a grams per mile basis) as speeds increase up to about 50 miles per hour (mph), then increase again at high speeds and high engine loads. ROG emissions associated with evaporation of unburned fuel depend on vehicle and ambient temperature cycles. Nitrogen oxides emissions exhibit a different curve; emissions decrease as the vehicle approaches 30 mph and then begin to increase with increasing speeds. Ozone levels typically build up during the day and peak in the afternoon hours. Short term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, O₃ can aggravate existing respiratory diseases such as asthma, bronchitis and emphysema. Chronic exposure to high O₃ levels can permanently damage lung tissue. Ozone can also damage plants and trees, and materials such as rubber and fabrics.

Reactive Organic Gases (ROG) and Volatile Organic Compounds (VOC)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROG and volatile organic compounds (VOCs), which are similar subsets, and are considered equivalent for purposes of this document, and include all hydrocarbons except those exempted by CARB. Therefore, ROG are a set of organic gases based on State rules and regulations. VOCs are similar to ROG in that they include all organic gases except those exempted by Federal law. Both VOCs and ROG 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.

The primary health effects of hydrocarbons result from the formation of ozone and its related health effects (see the ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described under the “Toxic Air Contaminants” heading below.

Carbon Monoxide (CO)

Carbon monoxide 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 (EPA, 2016).

The single largest source of CO in the SJVAB is motor vehicles. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 mph for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Short-term exposures (e.g., less than 3 hours) to low levels of NO₂ may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO₂ may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO₂ are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction.

NO₂ is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eyes, lungs, mucus membranes, and skin. Studies of the health impacts of NO₂ include experimental studies on animals, controlled laboratory studies on humans, and observational studies. Epidemiological studies have also shown associations between NO₂ concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

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 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.

Sulfur dioxide is a colorless acid gas with a pungent odor. It has potential to damage materials and it can have health effects at high concentrations. It is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. SO₂ can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

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 (PM), include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO₂ also is a major precursor to particulate matter that is 2.5 microns or less (PM_{2.5}), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO₂ easily injures many plant species and varieties, both native and cultivated. Some of the most sensitive plants include various commercially valuable pines, legumes, red and black oaks, white ash, alfalfa, and blackberry. The effects include:

- Visible injury to the most sensitive plants at exposures as low as 0.12 ppm for eight hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for eight hours; and
- Positive benefits from low levels in a very few species growing on sulfur-deficient soils.

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter refers to a wide range of solid and/or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM₁₀. PM_{2.5} includes a subgroup of fine particles that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter, such as pollen, is naturally occurring. In the SJVAB, the majority of particulate matter is caused by combustion, industrial activity, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM₁₀ is of concern because it bypasses the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs, which is why the USEPA and State of California developed PM₁₀ standards to apply only to these small particles. PM_{2.5} poses an increased health risk because the fine particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Motor vehicles are currently responsible for about half of particulates in the SJVAB. Wood burning in fireplaces and stoves is another large source of fine particulates, especially during the winter season.

Particulate matter or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are those that are 10 microns or less in diameter (PM₁₀) and those that are 2.5 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM_{10} and $PM_{2.5}$ can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis, are especially vulnerable to the effect of PM_{10} . Of greatest concern are recent studies that link PM_{10} exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM_{10} can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States. Non-health related effects include reduced visibility and soiling of buildings.

Sulfates

Sulfates (SO_4^{2-}) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4).

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. In addition to particulates, SO_3 and SO_4 are also precursors to acid rain. SO_x and NO_x are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB, 2009).

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. Several decades ago, mobile sources were the main contributor to lead concentrations in the ambient air due to leaded gasoline. In the early 1970s, the USEPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts, emissions of lead from the transportation sector, and levels of lead in the air have decreased dramatically (EPA, 2012).

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.

If not detected early, children with high levels of lead in their bodies can suffer from damage to the brain and nervous system; behavior and learning problems (such as hyperactivity); slowed growth; hearing problems; and headaches. Lead is also harmful to adults. Adults can suffer from difficulties during pregnancy; other reproductive problems (in both men and women); high blood pressure; digestive problems; nerve disorders; memory and concentration problems; and muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere would likely oxidize into SO_2 that can lead to acid rain. At low concentrations H_2S , which has a characteristic “rotten egg” smell, may cause irritation to the eyes, mucous membranes and respiratory system, dizziness and headaches. In high concentrations (800 ppm can cause death) hydrogen sulfide is extremely hazardous, especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H_2S .

Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H_2S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H_2S (0.00011–0.00033 ppm). Deaths due to breathing in large amounts of H_2S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

Vinyl Chloride

Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics.

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:

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.

- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.
- Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.
- Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects:
 - Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.
 - A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed “vinyl chloride disease,” which is characterized by Raynaud’s phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).
 - Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (EPA, 2000):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co-occurring exposure to other chemicals.
- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.
- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages during their wives’ pregnancies, although other studies have not supported these findings.
- Long-term exposure to vinyl chloride has also been identified as a cancer risk. Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans. Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

Visibility Reducing Particles

This standard is a measure of visibility. CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the state as being in attainment or non-attainment. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Except for Lake County (which is designated to be in attainment), California’s attainment status with respect to visibility reducing particles is currently designated as unclassified.

Toxic Air Contaminants (TAC)

Hazardous air pollutants (HAPs) is a term used by the federal Clean Air Act (CAA) that includes a variety of pollutants generated or emitted by industrial production activities. Called TACs under the California Clean Air Act of 1988 (CCAA), 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system and respiratory disorders. CARB provides emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic “Hot Spots” Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports (CARB, 2016). While TACs do result in potential health risks for those exposed, the proposed project would not emit TACs with the exception of diesel particulate matter and, therefore, only diesel particulate matter is described further in this analysis.

Diesel Particulate Matter

Diesel particulate matter (DPM) is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute about 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about five percent of total diesel particulate matter.

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by the California Office of Environmental Health Hazard Assessment (OEHHA). CARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA’s assessment, CARB estimates that diesel-particle levels measured in California’s air in 2000 could cause 540 “excess” cancers (beyond what would occur if there were no diesel particles in the air) in a population of one million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA and CARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which

they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

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 (CARB, 2007).

Airborne Fungus (Valley Fever)

Coccidioidomycosis, more commonly known as "Valley Fever," is primarily a disease of the lungs caused by inhalation of spores of the *Coccidioides immitis* fungus. The spores are found in the soil, become airborne when the soil is disturbed, and are subsequently inhaled into the lungs. 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.

Valley Fever symptoms generally occur within two to three weeks of exposure. Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms are fatigue, cough, chest pain, fever, rash, headache, and joint aches. In some cases, painful red bumps may develop. 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 requires specific laboratory tests such as 1) microscopic identification of the fungal spherules in the infected tissue, sputum, or body fluid sample, 2) growing a culture of *Coccidioides immitis* 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, 2020).

Valley Fever is not contagious and therefore cannot be passed from person to person. Most of those who are infected will recover without treatment within six months and will have a life-long immunity to the fungal spores. In severe cases, such as 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. Only one to two percent of those exposed who seek medical attention will develop a disease that disseminates (spreads) to other parts of the body other than the lungs. **Table 4.3-5, Range of Valley Fever Cases**, presents the various infection classifications and normal diagnostic spread as noted in recent research conducted by the Valley Fever Center for Excellence.

Table 4.3-5: Range of Valley Fever Cases	
Infection Classification	Percent of Total Diagnosed Cases
Unapparent infections	60 percent
Mild to moderate infections	30 percent
Infections resulting in complications	5 – 10 percent
Fatal infections	<1 percent
*Data from the Valley Fever Center for Excellence 2002.	

Factors that affect the susceptibility to coccidioidal dissemination are race, sex, pregnancy, age, and immunosuppression. According to data gathered by the Kern County Health Department, Mexicans are 3.4 times more likely than whites to develop coccidioidal dissemination, blacks are 13.7 times more likely, and Filipinos are 175.5 times more likely. Regarding the number of deaths attributed to the disease, compared to whites, the number of Mexicans is 5 times greater; blacks, 23.3 times greater; and Filipinos, 191.4 times greater (Valley Fever Center for Excellence, 2020). In addition, residents new to the San Joaquin Valley are at a higher risk of infection due primarily to low immunity to this particular fungus. Many long-time residents exposed to Valley Fever have recovered and therefore developed a life-long immunity to the disease.

The *Coccidioides immitis* 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, or other activities. This type of fungus is common in the southwestern United States and even more endemic in Kern County. The ecologic 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.

The areas of Kern County that have the most incidents of Valley Fever exposure are northeast Bakersfield, Lamont-Arvin, Taft and Edwards Air Force Base. The sediments in Northeast Bakersfield endemic for Valley Fever is the Round Mountain silt. The Round Mountain is member of the Middle Miocene Temblor Formation equivalent and consists of decomposed, marine sediments. The sediments in the project area consist of Upper Miocene, marine sediments of the Santa Margarita and Reef Ridge Formations. The Santa Margarita Formation is composed of inter-bedded white sandstone and shale with local, very coarse fanglomerate and granitic breccia. The Reef Ridge Formation is composed of sandy shale, in part diatomaceous. The relatively younger sediment deposited in the field area differs in composition and chemical content from the older Middle Miocene marine sediment of the Round Mountain Silt. Therefore, as indicated by the dissimilarity between the historic sites and based on SJVAPCD Regulation VIII dust control measures to be imposed on the developer as a result, the risk of contracting Valley Fever in connection with the development of the proposed project is considered to be unlikely.

While the risk of contracting Valley Fever is considered low, based on the general dissimilarity between the sediments known to contain the spores and the sediments believed to be present in the area of the proposed project, it must be noted that 1) airborne dust containing the spores can be transported to the project area from other areas within the Shafter area potentially exposing those present to the disease; and 2) persons who have not resided in the Shafter area may be more susceptible to contracting the disease than

long-time residents due to many environmental, medical and personal factors. The conclusions regarding the potential for either exposure to or contraction of Valley Fever through the construction of the proposed project should not be construed as a professional medical or public health opinion. These conclusions are merely a review of the geologic condition of the project site relative to potential presence of sediments known to contain the Valley Fever spore.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. In addition, naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges.

Coronavirus Disease 2019

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) human coronavirus that has not previously been seen in humans. The first known case of COVID-19 was confirmed in the United States on January 20, 2020 (Holshue, et al, 2020). There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Center for Disease Control (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after the exposure to the virus and may include, but are not limited to: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC, 2020a). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC, 2020b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long term exposure to PM_{2.5} (averaged from 2000 to 2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard, 2020).

Landfill Gas

Landfill gas is produced by the bacterial decomposition of organic refuse in the landfill under anaerobic conditions. Initially decomposition is aerobic until the oxygen supply is exhausted. Anaerobic decomposition produces relatively high concentrations of CO₂ and CH₄ (AWMA, 1992). This two-stage process consists of altering complex organic material into simple organic materials by a group of facilitative and anaerobic bacteria, commonly called "acid formers," and then the consumption of these simple organic

compounds, normally organic fatty acids, by methanogenic bacteria. Landfill gas consists of approximately 50 percent CO₂ by volume and 50 percent CH₄, with trace amounts of non-methane organic compounds (NMOC). Other constituents of landfill gas can include ammonia, hydrogen sulfide, nitrogen, hydrogen chloride and carbon monoxide, along with a variety of volatile organic compounds (AWMA, 1992). Organic air emissions from landfills may include some toxic compounds and hazardous compounds with carcinogenic and non-carcinogenic health effects. The five major effects of landfill gas emissions are human health and vegetation effects from ozone produced by NMOC emissions, carcinogenicity and other possible non-cancer health effects, global warming effects from methane emissions, explosion hazards, and odor nuisance.

Section 111 of the Federal Clean Air Act authorized the U.S. Environmental Protection Agency to develop technology-based standards applying to specific categories of stationary sources. These New Source Performance Standards (NSPS), as defined in Title 40 CFR Part 60, require Municipal Solid Waste (MSW) landfills with a design capacity equal to or greater than 2.5 million megagrams or 2.5 million cubic meters to calculate the non-methane organic compounds (NMOC) emission rate on an annual basis. If the NMOC emission rate is equal to or greater than 50 megagrams per year, a landfill gas collection and control system must be installed.

The landfill began operations in 1972. Tier 2 testing and analysis was conducted in 2003. Based on the results, the site has the potential to emit NMOC at a rate of greater than 50 Mg/year. NMOC emissions greater than 50 Mg/year require the installation of a landfill gas collection and control system. Construction of the landfill gas system began during the summer of 2004 and startup of the system began in January 2005. In October 2005, the site began to operate under the New Source Performance Standards. The system included several vertical wells, a gas extraction blower, and an enclosed flare. Currently the system operates continuously and is only shut down for maintenance. The system operates under the SJVAPCD permit number S-3431 and is located in the Northeastern corner of the site.

Monitoring is required every 1,000 feet of the perimeter of landfill permitted property boundary, and within on-site structures (Title 27 CCR). The goal is to identify areas where landfill gas concentrations have migrated beyond the landfill permitted property boundary or entered structures. Regulations requires the immediate implementation of protocols and procedures in the event methane concentrations are measured above the lower explosive limit (LEL) of 5% by volume in air in a perimeter probe, or above 1.25% by volume in air in any structure.

Based on experience at other Kern County landfills, the specific constituents found in groundwater, and the results of a landfill gas investigation conducted by GC Environmental, Inc. in 2001, the most likely mechanism for transport of volatile organic gases (VOCs) into groundwater at the landfill appears to be landfill gas. Landfill gas travels readily through sandy soils such as those at the project site. Landfill gas is characterized not only by the primary constituents of CH₄ and CO₂, but by a variety of VOCs including dichlorodifluoromethane, trichlorofluoromethane, and tetrachloroethene.

4.3.3 Regulatory Setting

The environmental setting for air quality is the same as that described in Chapter 4.3.3 – *Air Quality, Environmental Setting*, pages 4.3-35 through 4.3-48, of the 2009 EIR. In California, air quality is regulated by several agencies, including USEPA, CalEPA, CARB, and local air districts. Each of these agencies develops rules and regulations to attain the goals or directives imposed upon them through legislation.

Although EPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the Kern County portion of the SJVAB, which is under the jurisdiction of the SJVAPCD. The SJVAPCD has developed CEQA guidance for assessing air quality impacts. The County of Kern, as Lead Agency for this project, has its own CEQA guidelines for assessing air quality impacts.

Federal

U.S. Environmental Protection Agency (EPA)

The EPA has responsibility for enforcing, on a national basis, the requirements of many of the country's environmental laws. California is under the jurisdiction of EPA Region 9, which has its offices in San Francisco. Region 9 is responsible for the local administration of EPA programs for California, Arizona, Nevada, Hawaii, and certain Pacific trust territories. EPA's activities relative to the California air pollution control program focus principally on reviewing California's submittals for the State Implementation Plan (SIP). The SIP is required by the federal Clean Air Act (CAA) to demonstrate how all areas of the state will meet the national ambient air quality standards within the federally specified deadlines.

The Federal Clean Air Act (CAA) establishes federal requirement for EPA to develop and adopt air quality standards, the NAAQS (see Table 3.1), and specifies future dates for achieving air quality compliance. The CAA further mandates that states submit and implement SIPs for those areas not meeting these standards. The SIPs must include air pollution control measures that demonstrate how the NAAQS will be met. The 1990 amendment to the CAA requires that areas not meeting NAAQS demonstrate reasonable further progress toward attainment and incorporates sanctions for failure to attain or meet specific attainment milestones. Each state is required to adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state. CARB is responsible for incorporating air quality management plans (AQMPs) for local air basins into a SIP, which is then reviewed and approved by the EPA.

In addition to requiring the establishment of NAAQS and the development and maintenance of SIPs, the CAA authorizes EPA to establish regulations on certain categories of stationary sources of air pollution. Specifically, Section 111 of the CAA authorizes EPA to establish standards of performance for new and existing sources, commonly referred to New Source Performance Standards (NSPS)s. Under this authority, EPA has promulgated its Standards of Performance for Municipal Solid Waste Landfills, found at 40 Code of Federal Regulations (CFR) 60, Subpart WWW and XXX. NSPS Subpart WWW and XXX require that an MSW landfill exceeding certain size and emission thresholds install and operate a landfill gas (LFG) collection and control system (GCCS), conduct performance testing, and comply with administrative reporting, recordkeeping, and notification requirements.

Similarly, Section 112 of the CAA authorizes EPA to establish emission standards for listed hazard air pollutants, commonly referred to as National Emission Standards for Hazardous Air Pollutants (NESHAPs). Under this authority, EPA has established its NESHAP for Municipal Solid Waste Landfills, found in 40 CFR 63, Subpart AAAA. NESHAP Subpart AAAA incorporates the requirements of NSPS Subpart WWW by references as well as expanding its applicability.

State

California Air Resources Board (CARB)

CARB is responsible for ensuring implementation of the California Clean Air Act (CCAA) and for regulating emissions from consumer products and motor vehicles. The CCAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain CAAQS by the earliest practical date.

CARB established the CAAQS for all pollutants for which the federal government has NAAQS. Additional standards for sulfates, visibility-reducing particles, H₂S, and vinyl chloride have been established; however, they are not considered to be a regional air quality problem at this time. H₂S and vinyl chloride are not measured at any monitoring stations in the SJVAB. Generally, the CAAQS are generally equal or more stringent than the NAAQS 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 4.3-2, Summary of Ambient Air Quality Standards and SJVAPCD Attainment Status**, above, the Kern County portion of the SJVAB is currently designated as non-attainment for the 1-hour and 8-hour state ozone standard, as well as the state 24-hour 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 (SJVAPCD, 2020).

CARB is also responsible for regulations pertaining to TACs. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources through reporting of toxic emissions. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized based on emission levels and the types of pollutant emissions. “High-priority” facilities are required to perform a Health Risk Assessment (HRA) and, if specific thresholds are violated, are required to communicate the results to the public in the form of public notices and meetings. Depending on the risk levels determined, facilities are required to implement varying levels of risk reduction measures. The SJVAPCD implements AB 2588 through rule requirements and is responsible for prioritizing facilities that emit air toxics, reviewing HRAs, and overseeing the implementation of risk reduction measures. Pursuant to the requirements of AB 2588, the SJVAPCD publishes an air toxics emissions inventory detailing TAC emissions for facilities within its jurisdiction.

Additionally, California has passed Assembly Bill 617 (AB) to address the disproportionate impacts of air pollution in environmental justice communities. AB 617 requires moving toward more uniform statewide reporting and increases civil and criminal penalties for air pollution violations, adjusting strict liability penalty limits that had not been increased for decades. Components within AB 617 include:

- Community Emissions Reductions Plans
- Community Monitoring and Analysis
- Best Available Retrofit Control Technology implementation

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given

TAC. The Shafter-Wasco RSLF and this proposed project fall outside of both the Shafter community boundary as well as the seven-mile air monitoring radius associated and established within AB 617.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide program to operate their equipment which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts.

In 2007, CARB enacted a regulation for the reduction of diesel particulate matter and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 CCR Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_x emissions for owners of fleets of diesel-fueled off-road vehicles. This regulation 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 CAA, as amended in 1990, creates an operating permit program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (tpy) of NO_x and ROG must process a Title V permit. In "Extreme Designation" areas, the definition of a major source which requires Title V permitting, changes from 25 tpy to 10 tpy. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and EPA participation in the permitting process and requires additional record keeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard Program

In 2002, Senate Bill (SB) 1078 established California's Renewables Portfolio Standard (RPS) program. The RPS program requires electrical corporations and electric service providers to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. SB 1078 requires the California Energy Commission to certify eligible renewable energy resources, to design and implement an accounting system to verify compliance with the RPS by retail sellers, and to allocate and award supplemental energy payments to cover above-market costs of renewable energy. Under SB 1078, each electrical corporation was required to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales were procured from eligible renewable energy resources.

In 2006, SB 107 accelerated the RPS program by establishing a deadline of December 31, 2010, for achieving the goal of having 20 percent of total electricity sold to retail customers in California per year generated from eligible renewable energy resources.

In 2008, the RPS goal was increased to 33 percent under Executive Order S-14-08, which was later superseded by Executive Order S-21-09 in 2009. Executive Order S-21-09 directed CARB to adopt

regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. In 2010, CARB approved a Renewable Electricity Standard regulation.

In 2011, the California Senate passed legislation paralleling and expressly superseding CARB's RPS program rules. Pursuant to SB 1X-2, the statutory RPS was increased to 33 percent and expanded the RPS program to include customer-owned utilities. In addition, SB 1X-2 limits the use of out-of-state tradable renewable energy certificates to 25 percent in 2013, 15 percent in 2016, and 10 percent thereafter.

In 2015, the Clean Energy and Pollution Act of 2015 (SB 350) increased the RPD goal from 33 percent to 50 percent by 2030. SB 350 required local publicly owned electric utilities to establish annual targets for energy efficiency savings and demand reduction consistent with this goal.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan (KCGP) (KPCD, 2009) applicable to air quality, as related to the project, are included in the Land Use, Conservation, and Open Space Element, provided below. The KCGP contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below.

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

Air Quality

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:

- (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
- (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This

finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

- Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
- Policy 21: The County shall support air districts efforts to reduce PM₁₀ and PM_{2.5} emissions.
- Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Implementation Measures

- Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
1. Minimizing idling time.
 2. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
1. Pave dirt roads within the development.
 2. Pave outside storage areas.
 3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 4. Use of alternative fuel fleet vehicles or hybrid vehicles.
 5. Use of emission control devices on diesel equipment.
 6. Develop residential neighborhoods without fireplaces or with the use of.
 7. Environmental Protection Agency certified, low emission natural gas fireplaces.
 8. Provide bicycle lockers and shower facilities on site.
 9. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
 10. The use and development of park and ride facilities in outlying areas.
 11. Other strategies that may be recommended by the local Air Pollution Control Districts.
- Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

In 2006, Kern County issued its own *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County Air Quality Assessment Guidelines) (KCPD, 2006). The document provides specific guidance for County-prepared EIRs, including air quality issues to be considered, analytical approaches and resources, and a cumulative impact analysis methodology. In general, Kern County defers to SJVAPCD on issues related to assessing air quality impacts (e.g., modeling, odors, risk assessment). In addition, the County requires a list of projects located within a one-mile and six-mile radius of the project boundary.

San Joaquin Valley Air Pollution Control District

The SJVAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the SJVAPCD implements air quality programs required by State and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The SJVAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within the Kern County portion of San Joaquin Valley Air Basin.

In 1998, SJVAPCD adopted its *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) to provide lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. SJVAPCD subsequently revised its GAMAQI document in 2002 and 2015. Key elements of the 2015 GAMAQI document (SJVAPCD, 2015) that are evaluated as part of this analysis include:

- CAP Emissions Thresholds: These thresholds have been developed for construction and operational emissions, as specified below.

Table 4.3-6: Air Quality Thresholds of Significance for Criteria Pollutants

Pollutant/ Precursor	Operational Emissions (ton/year)		
	Construction Emissions (ton/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: SJVAPCD 2015.

As indicated in the 2015 GAMAQI, permitted sources and activities are subject to SJVAPCD Regulation II (Permits), notably Rule 2201 (New and Modified Stationary Source Review) and Rule 2301 (Emission Reduction Credit Banking). Rule 2201 requires that any emission increases from new permitted stationary sources are mitigated by emission offsets. In most cases, permitted stationary source emissions, therefore, will be reduced or mitigated to below the SJVAPCD's recommended significance thresholds (SJVAPCD 2015).

- **CAP Modeling:** When assessing the significance of project-related impacts on air quality, impacts may be significant when emission increases from construction activities or operational activities exceed SJVAPCD's 100 pounds per day screening level, which is applicable to any criteria pollutant after implementation of all enforceable mitigation measures. When onsite emissions are in excess of the screening threshold, SJVAPCD recommends that an ambient air quality analysis be performed. An ambient air quality analysis uses air dispersion modeling (e.g., atmospheric dispersion modeling system (AERMOD)) to determine if emission increases from a project will cause or contribute to a violation of the ambient air quality standards. SJVAPCD's March 2015 GAMAQI states that a project should be considered to have a significant impact if its emissions would cause or contribute to a violation of any CAAQS or NAAQS.
- **Assessment of Carbon Monoxide (CO) Impacts:** Due to the fact that increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, SJVAPCD has established that preliminary screening can be used to determine if a project would result in a CO hotspot at any given intersection. SJVAPCD has established that if neither of the following criteria are met at all intersections affected by the project, the project will result in no potential to create a violation of the CO air quality standard:
 - A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
 - A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more intersections in the project vicinity.

If either of the above criteria can be associated with any intersection affected by the project, the applicant/consultant would need to conduct a CO analysis to determine a project's significance.

- **Odor Assessment:** SJVAPCD recommends that odors associated with a proposed project should be evaluated on a case-by-case basis and suggests a two-part process for evaluating a project's potential odor impacts. Initially, the proximity of a potential odor generator with respect to sensitive receptors (residences, schools, day care centers, hospital, etc.) should be compared to District recommended odor screening distances. For composting facilities, SJVAPCD recommends more detailed analysis of potential odor impacts if sensitive receptors are located within one mile of an odor source. If receptors are located within the recommended screening distance, SJVAPCD suggests that the odors should be assessed qualitatively, taking into consideration project design elements, local meteorological conditions, and the nature of the odor source. SJVAPCD also recommends reviewing historical odor complaints in the project vicinity.
- **Health Risk Assessment (HRA):** SJVAPCD's thresholds of significance for health risks associated with TACs emitted from project operations are as follows:
 - **Carcinogens:** increased cancer risk of 20 per one million or greater for the maximally exposed individual.
 - **Non-Carcinogens:** hazard index of 1 or greater for the maximally exposed individual. Note that the hazard index is expressed as a ratio of exposure levels to acceptable levels.

SJVAPCD recommends that risk assessments be conducted in accordance with California Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines (Cal/EPA 2015).

The SJVAPCD has established the following rules and regulations to ensure compliance with local, State, and federal air quality regulations.

Rule 2010 - Authority to Construct and Permit to Operate

Rule 2010 requires owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, to apply for an Authority to Construct and Permit to Operate.

Rule 2201 - New and Modified Stationary Source Review

Rule 2201 requires that any emission increases from new permitted stationary sources are mitigated by emission offsets. In most cases, permitted stationary source emissions, therefore, will be reduced or mitigated to below the SJVAPCD's recommended significance thresholds (SJVAPCD, 2015).

Rule 4565 – Biosolids, Animal Manure, and Poultry Litter Operations

Rule 4565 regulates VOC emissions from facilities whose throughput consists entirely or in part of biosolids, animal manure, or poultry litter and the operator who landfills, land applies, composts, or co-composts these materials.

Rule 4566 - Organic Material Composting Operations

Rule 4566 regulates organic material composting operations. Rule 4566 controls VOC emissions from composting operations. Additionally, Rule 4566 mandates controlling at least 80 percent of the VOC emissions that are the common cause of odor issues at uncontrolled composting facilities.

Rule 8021 – Dust Control Plan

Rule 8021 Section 6.3, requires applicants to develop, prepare, submit, obtain approval of, and implement a Dust Control Plan, which would reduce fugitive dust impacts to less than significant for all construction phases of a project, which would also control the release of the *Coccidioides immitis* fungus from construction activities.

Air Quality Conformity Determination for Transportation Plans and Programs

The CAA amendments of 1990 require a finding to be made stating that any project, program, or plan subject to approval by a metropolitan planning organization conforms to air plans for attainment of air quality standards. Kern Council of Governments (COG) is designated the Regional Transportation Planning Agency and Metropolitan Planning Organization for Kern County. In that capacity, Kern COG models air quality projections on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan (RTP) and the federal transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by EPA in the 1999 base year. Kern County is contained within two air basins: the 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 draft 8-hour ozone air quality conformity analysis to analyze Kern County's federally approved Federal Transportation Improvement Program (FTIP) and the Destination 2030 RTP. Changes to the federal air quality standards for ozone from a 1-hour measurement to an 8-hour measurement have triggered the need for this analysis. The FTIP for the Kern County region is a six-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, 2015).

4.3.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to air quality for the project including the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Where warranted, measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Methodology

The air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the project area, approved CEQA air quality checklists, and considering other federal criteria. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with construction, operation, and maintenance of the project. The findings in the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report* (SCS Engineers 2020) (Appendix D of this SEIR), which was prepared in accordance with the Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* documents, and SJVAPCD's *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015) to assess the project's impacts related to air quality.

To evaluate project impacts, emissions are presented for the following categories of sources: 1) construction emissions, 2) operational emissions (onsite permitted equipment and activities), and 3) operational emissions (non-permitted equipment and activities). Construction emissions and emissions from non-permitted equipment are typically offset by SJVAPCD programs aimed at reducing emissions associated with these types of activities such as the Voluntary Emissions Reduction Agreement or grant funding mechanisms administered by the SJVAPCD, whereas emissions from permitted activities are typically offset through the stationary source permitting process or through emission reduction credits (ERCs) under the SJVAPCD's jurisdiction. Emission reduction credits may be required for the project's composting VOC/ROG emissions under the SJVAPCD permitting requirements. Quantification of ERCs would occur during the permitting process, in conjunction with SJVAPCD, after operational changes are agreed upon to reduce overall project emissions.

The construction and operational emissions were estimated from several emissions models and associated spreadsheet calculations, depending on the source type and data availability. Emissions were estimated as the difference between post-project conditions and baseline existing conditions. The emissions estimates cover construction and operation, including mobile and stationary sources. The methods used to estimate these emissions are described here. The analysis is consistent with the California Emission Estimator Model version 2016.2.3 (CalEEMod®), a model developed by the California Air Pollution Control Officers

Association (CAPCOA) in collaboration with Ramboll Environ (as ENVIRON International Corporation) for use in developing emission inventories suitable for CEQA analyses. The analysis relies heavily on the CalEEMod® methodology described in the CalEEMod® User's Guide and the tables of default data in the CalEEMod® User's Guide. Refer to the Appendix D of this SEIR, *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report*, for details on equipment fleet, hours of operation, vehicle miles traveled, and other assumptions used.

Baseline Conditions

Baseline existing conditions reflect the environmental conditions at the time the Notice of Preparation was published. Baseline existing conditions include current diversion activities related to organic feedstock handling and stockpiling and permitted landfill operations.

Approximately 22,500 tons per year of organic feedstock is currently stockpiled, handled, processed, and transferred through the diversion area of the project site and transported off site to a permitted composting facility. Table 4.2-8, *VOC and NH₃ Emissions From CASP Feedstock Stockpiles*, in Appendix A of the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report* (Appendix D) of this SEIR, shows the current VOC and ammonia (NH₃) emissions generated from feedstock stockpiling as 11.25 tons per year and 1.13 tons per year, respectively, with an average stockpile time of 5 days. Table 4.2-2, *Material Handling Emissions*, in Appendix A of the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report*, shows fugitive emissions from current material handling processes for PM_{2.5} at 0.04 tons per year, and PM₁₀ also at 0.04 tons per year.

Emissions related to landfill operations were analyzed in the 2009 EIR, and include on-site exhaust emissions, mobile emissions, flare emissions and fugitive dust emissions. The conditions and equipment used to analyze emissions in the 2009 EIR are consistent with current operations.

Construction Emissions

Construction emission calculation methodologies cover off-road equipment and on-road vehicles. Area sources (e.g., architectural coatings, asphalt paving) are not included in the inventory as they are not anticipated for construction of the project.

Construction activities are analyzed separately from operational impacts because they tend to be short-term and limited to localized impacts. However, ongoing or long-range construction activities that occur over a wide geographic area have the potential to create regional air quality impacts in much the same way as operational sources. Specifically, construction ozone precursor emissions (NO_x and VOCs) as well as particulate matter emissions (PM₁₀ and PM_{2.5}) have the potential to affect regional air quality if emitted in large enough quantities. Therefore, construction activities must be analyzed for both localized and regional impacts.

There are two options for the proposed construction and operational sequencing of the composting facility:

Option 1: Construction of the facility may occur in two phases:

- Phase 1 of 50,000 TPY would be initially constructed
- Operations of Phase 1 would operate concurrently with the construction of Phase 2, an additional 50,000 TPY;
- Operations of Phase 1 and Phase 2 (100,000 TPY) operate concurrently

Option 2: The proposed construction and operational sequencing of the composting facility would be constructed through a complete build-out of the Phase 1 and Phase 2 with operations beginning immediately after completion of construction.

The proposed construction and operational sequencing of the self-haul recycling facility would be tentatively scheduled to begin in 2021 and operations tentatively scheduled to begin in 2022.

The methodology used to calculate emissions from each category is presented in Appendix D of this SEIR, the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report* (SCS, 2020). Specific construction phase inputs for the project such as the off-road equipment list and the count of on-road vehicle trips are summarized in tables found in Appendix A of the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report*.

Construction of the composting facility will encompass a wide variety of activities that emit air pollutants. These activities will create fugitive emissions, earthmoving, and engine exhaust emissions. Fractions of the fugitive emissions from dust are PM₁₀ and PM_{2.5}. Diesel engine exhaust from operating equipment include criteria pollutants from which particulate is also toxic. Gasoline exhaust emitted by construction vehicles in route to and from the project are also addressed. Sources of fugitive emissions during construction of the project will result from the following:

- Dust entrained during grubbing and land clearing activities,
- Dust entrained during grading and excavation activities, and
- Dust entrained during trenching for utilities, drainage, and subgrade structures.

Engine exhaust emissions during construction of the project will result from the following:

- Off-road construction equipment used for site grubbing and land clearing activities;
- Off-road construction equipment used for grading and excavation activities; and
- Off-road construction equipment used during trenching for utilities, drainage, and subgrade structures.

Construction emissions from earthmoving activity were quantified using applicable sections of EPA's AP-42, "Compilation of Air Emissions Factors," with some variable default from CalEEMod®. Construction exhaust emissions were quantified using CARB's "OFFROAD2017 Orion Emissions Database. Particulate matter emitted from diesel-fueled equipment were assumed emitted from USEPA Tier 4 standard engines. A summary of the emissions quantified can be found in **Table 4.3-8, Project Construction Emissions (Before Mitigation)**.

Operational Emissions – Non-Permitted Mobile Sources

Operational impacts are those that result from the day-to-day activities occurring throughout the various areas of the proposed project and mobile source activity within one-quarter mile of the project boundary (SJVAPCD, 2018b). Upon implementation of the project, on-site landfilling activity will remain unchanged, with the only difference being the additional operations from landfill equipment emissions, due to an increase of equipment operating hours. These additional operating landfill equipment emissions will be addressed in the following section for stationary sources. As described in Chapter 3, *Project Description*, there will be no new incoming haul traffic to the facility due to the expanded hours. However, due to the

addition of the new CASP operation, it is anticipated that an additional two new employees will be hired and therefore travel to and from home each day. Offsite, new worker travel has therefore been addressed for both paved road emissions and vehicle exhaust. Mobile source operation emissions from the two new workers and new operating equipment, both daily and annual emissions have no criteria pollutant emissions within 3 orders of magnitude of the 100 pound per day standard set forth by SJAPCD APR-2030. Results are presented in Appendix D of this SEIR, as *New Worker Travel* in Table 4.2-2, of the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020).

Operational Emissions – Permitted Stationary Sources

The proposed composting operation emissions consist of fugitive emissions of VOCs and ammonia (NH₃) controlled by a waterproof, windproof, and breathable three-layer laminate technology, known as a GORE Cover System, to completely enclose the compost pile. This cover is designed to protect the compostable material from environmental elements, allow moisture and air to escape, and trap odor, dust, germs, and bacteria. Anaerobic conditions are minimized by the use of a positive aeration system where air is forced up through the pile and out through the GORE Cover. Under properly installed, operated, and maintained conditions, the GORE Cover System is capable of satisfying SJVAPCD Guideline 6.4.7 (Co-Composting with Biosolids) with an overall capture and control efficiency greater than or equal to 80% for VOC emissions. Should the project proponent choose to utilize a biocover option (such as 6-12 inches of finished compost or wood chips) to cover a compost pile as a viable option, the overall capture and control efficiency will be greater than or equal to the fabric cover emission reduction requirements for composting operations. For illustrative purposes, an example of the GORE Cover System can be seen in **Figure 4.3-2, GORE Cover System Illustrative Example**, below.

Figure 4.3-2 GORE Cover System Illustrative Example

Source: CalRecycle's blogs – 21st Century Infrastructure Transforms California's Central Valley - Mid Valley Disposal
https://66.media.tumblr.com/475aa31c42d1faba191a9b2c4d5df959/tumblr_inline_ovikcasf4I1slyfc_640.png

Additional emissions from the proposed composting facility include material handling emissions of PM_{10} and $PM_{2.5}$, and diesel particulate matter and gasoline criteria air pollutant emissions from composting operating equipment. There will be no increase for incoming refuse or hauling due to the composting operations beyond the existing permitted conditions. The new project operation emissions are summarized below in **Table 4.3-9, Project Operation Emissions (Before Mitigation)**, and compared to SJVAPCD significant impact levels. Details of these emissions are provided in Appendix D of this SEIR, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020).

Health Risk Assessment (HRA)

The HRA, in Appendix D of this SEIR, provides upper-bound, health-conservative estimates of potential human health impacts that may be attributable to toxic air contaminant (TAC) emissions from the proposed project. The upper bound estimate of the human health impact is provided per CARB, SJVAPCD, and EPA guidance and methodology and addresses risk of obtaining cancer, and non-cancer health impacts after long-term exposure (chronic) and short-term (acute) exposure durations. The assessment serves as a means of addressing TACs that are emitted, meteorologically dispersed, then exposed to human population directly or by secondary and tertiary means, such as consumption of food products that have absorbed these TACs.

The results of the Health Risk Assessment are summarized below in **Table 4.3-7, HRA Results**.

Table 4.3-7: HRA Results

<u>HRA Scenario Maximums</u>	Cancer Risk (per million)	Chronic Hazard Index	Acute Hazard Index
Maximum Exposed Individual	5.82	0.009	0.203
SJVAPCD Significance Threshold	20	1.0	1.0
Project Exceeds SJVAPCD Threshold?	No	No	No

Visibility Assessment

Kern County Planning & Natural Resources Department's (KCPD) *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (KCPD, 2006) recommends that 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. These guidelines recommend that all Class 1 areas located within 100 kilometers of the project site should be analyzed. SJVAPCD does not require a visibility analysis and does not provide any guidance for visibility analyses.

Adverse visibility impacts are not expected from this project for several reasons. Most importantly, the project site is a low-level source without any stacks, so impacts (if any) are expected to be localized rather than regional. Most of the particulate matter emissions associated with the project are generated from vehicles travelling onsite on unpaved roads, and material handling, which tend to have localized impacts. These impacts are mitigated by the regular watering of the onsite roadways, the regular watering of the compost piles, and other dust suppression techniques that are part of the existing process or will be incorporated as part of the project.

In addition, other secondary aerosols that are known to cause haze and reduce visibility – such as nitrate and sulfate – are not expected to be generated in large quantities due to the project. In fact, NO_x emissions (precursor to nitrate) in SJVAPCD are estimated to decrease as a result of the project, and SO_x emissions (precursor to sulfate) in SJVAPCD are estimated to be very low (~0.1 ton/year) as a result of the project.

The only visibility impact area located within 100 kilometers of the site project that Kern County guidelines recommend evaluating is San Rafael Wilderness, a Class 1 area located approximately 90 kilometers from the project site. This area is separated from the project site by the San Rafael Mountains, located to the southwest (in the direction of San Rafael Wilderness). These terrain features would tend to impede any visibility impacts from the project site by blocking plume transport, providing ample areas for dust impaction and deposition, or by creating turbulence that breaks up the stable plume once it encounters the terrain features.

Carbon Monoxide Hot Spot Analysis

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66 percent of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic

congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. A CO “hotspot” can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors.

Odor Assessment

Odor refers to the perception or sensation experienced when one or more volatilized chemical compounds come in contact with receptors on the olfactory nerves. Odorant refers to any volatile chemical in the air that is part of the perception of odor by a human. The difference in sensory and physical responses experienced by individuals is responsible for the significant variability in the individual sensitivity to the quality and intensity of an odorant.

Types of land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. In addition, the occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress, cause a diminishment in quality of life, and often generating citizen complaints to local governments and regulatory agencies.

The SJVAPCD identifies a compost facility as a type of facility that is a potential odor source. Because there are one or more sensitive receptors with the screening trigger distance of 1 mile from the landfill property, potential odor impacts from the project must be considered. The SJVAPCD has established the following significance threshold for odor problems:

- More than one confirmed complaint per year averaged over a three-year period, or
- Three unconfirmed complaints per year averaged over a three-year period.

The existing landfill facility has not received an average of one odor complaint for the past three years, nor has the facility received three unconfirmed complaints per year averaged over a three-year period; therefore, the odor impact is not significant. Additionally, the Shafter-Wasco RSLF (the proposed project site) and associated diversion operations maintain and follow an Odor Impact Minimization Plan per Title 27 CCR.

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on air quality. The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect to air quality. A project could have a significant adverse effect on air quality if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment 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:

Operational and Area/Construction Sources:

- ROG – 10 tons per year
 - NOx – 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:
- d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Project Emissions

Project emissions are tabulated by source type for both construction and operations in the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020). **Table 4.3-8, Project Construction Emissions (Before Mitigation)**, and **Table 4.3-9, Project Operation Emissions (Before Mitigation)**, present the project's criteria air pollutants (CAP) emissions for construction and operations, respectively. The results are summarized below.

Construction Emissions

Table 4.3-8 shows that, without accounting for mitigation, construction emissions do not exceed any of the established SJVAPCD CEQA thresholds of significance. The following summary emissions are compared with SJVAPCD Significant Impact Levels (SILs) for tons per year and for pounds per day. The emission totals shown reflect construction emissions before the application of the fugitive dust control measures.

All project construction emissions are below established SJVAPCD significance thresholds. Therefore, all CAP emissions from construction activity are considered to be less than significant. Best management practices (BMPs), including but not limited to, dust control through water application for reducing fugitive dust will be implemented for the construction elements of the proposed project to reduce emissions.

Table 4.3-8: Project Construction Emissions (Before Mitigation)						
Activity	ROG	CO	NO_x	PM₁₀	PM_{2.5}	SO_x
	Tons per Year (TPY)					
Earthmoving	N/A	N/A	N/A	0.19	0.12	N/A
Combustion Exhaust	0.2	1.8	1.5	0.01	0.01	0.004
Annual Emissions	0.2	1.8	1.5	0.20	0.13	0.004
Significance Thresholds	10	100	10	15	15	27
GAMAQI Significance	No	No	No	No	No	No
<i>Notes: N/A = Not Applicable</i>						

Project Operational Emissions

For operational sources, **Table 4.3-9** below demonstrates that, without accounting for mitigation, ROG emissions exceed the SJVAPCD CEQA threshold of 10 tons per year. Other identified emissions sources related to operations do not exceed any of the SJVAPCD CEQA thresholds of significance.

All project operational criteria pollutant emissions are less than SJVAPCD significance thresholds with the exception of ROG. ROG emissions will be mitigated as part of the SJVAPCD permitting process via a number of options – compliance with Best Available Control Technology (BACT) requirements; compliance with all applicable District regulations and composting rules; the acquisition of emissions reduction credits (offsets); and/or changes in operational components and alteration to material handling processes; therefore, impacts will be mitigated to below the established VOC/ROG significance threshold.

As shown in **Table 4.3-9**, ROG/VOC covered aerated static pile composting (CASP) related fugitive emissions is projected to be 50.7 tons per year. This is calculated using a conservative control efficiency of 90 percent, and an emission factor from the *San Joaquin Valley Air Pollution Control District Compost VOC Emission Factors Report* of 5.71 lbs/ton for green waste and 1.78 lbs/ton for co-composting materials (SJVAPCD, 2010).

The ROG/VOC CASP feedstock stockpile emissions, incorporated in the CASP Fugitive emissions permitted value, is projected to increase from the current 11.25 tons per year to 30 tons per year, a net increase of 18.75 tons per year. This assumes the proposed project will allow for more efficient handling of material, resulting in a decrease in average time to process a stockpile from the current 5 days to a projected 3 days.

Table 4.3-9: Project Operation Emissions (Before Mitigation)

	Activity	NH ₃	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
		Tons Per Year (TPY)						
Permitted	CASP Fugitive	9.48	50.6	N/A	N/A	N/A	N/A	N/A
	CASP Material Handling	N/A	N/A	N/A	N/A	N/A	0.15	0.12
	CASP Diesel	N/A	0.11	0.62	1.01	0.004	0.011	0.010
	<i>Total Permitted</i>	9.48	50.7	0.62	1.01	0.004	0.16	0.13
	<i>SJVAPCD GAMAQI SIL</i>	N/A	10	100	10	27	15	15
	GAMAQI Significance	N/A	Yes	No	No	No	No	No
Non-Permitted	New Worker Travel-Road Fugitive	N/A	N/A	N/A	N/A	N/A	0.029	0.07
	New Worker Travel-Exhaust	N/A	0.00	0.007	0.00	0.00	0.00	0.00
	New Operating Equipment- Diesel	N/A	1.11	1.15	0.194	0.004	0.012	0.010
	CASP Gasoline	N/A	0.007	0.012	0.007	0.001	0.001	0.001
	CASP Diesel	N/A	0.080	0.36	0.40	0.002	0.005	0.004
	<i>Total Non-Permitted</i>	0.0	1.20	1.53	0.60	0.01	0.31	0.09
	<i>SJVAPCD GAMAQI SIL</i>	N/A	10	100	10	27	15	15
	GAMAQI Significance	N/A	No	No	No	No	No	No
<i>Notes: GAMAQI significance ROG threshold exceeds SJVAPCD standard by 40.7 tons per year.</i> <i>N/A = Not Applicable</i> <i>Values that are zero are less than 0.001</i>								

The project proponent may choose to construct a complete build-out (Phase 1 and Phase 2) of the proposed project at one time over a single year. Construction of the facility may also occur in two phases. As such, construction of Phase 1 (16 bunkers at 50,000 TPY) would be initially constructed. Operations of Phase 1 would run concurrently with the construction of Phase 2 (an additional 16 bunkers at 50,000 TPY).

Covered aerated static pile composting technologies do allow for reductions in excess of 80 percent, and at the detailed engineering level required to complete the SJVAPCD permitting process, it is probable that the composting system will reduce ROG/VOC emissions by more than 80 percent. As stated above, this project assumes a 90 percent control efficiency. For CEQA purposes, assuming a range of VOC/ROG control efficiencies from only the 80 percent VOC/ROG reduction required by SJVAPCD rules to nearly 98 percent calculated in accordance with data from a study funded by the San Joaquin Valley Technology Advancement Program (SJVTAP, 2013) provides a reasonable estimate of future VOC/ROG emissions.

Emission offsets for facility operations may also be required by SJVAPCD rules, and the quantity of the offsets (if required) will also be determined as part of the detailed engineering work required for the specific composting technology system as part of the SJVAPCD's permitting process.

Project Impacts

Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all reasonably available and feasible air quality control measures. The consistency with the Air Quality Management Plan (AQMP) is discussed below for construction and operation.

Air quality impacts are controlled through policies and provisions of the SJVAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in nonattainment emissions per year. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The Attainment Plans prepared for the SJVAPCD comply with this requirement. CARB reviewers approve or amend the document and forward the plan to EPA for final review and approval within the SIP. Each project should also demonstrate consistency with the SJVAPCD's adopted AQMP for Ozone (O₃) and PM₁₀.

As discussed in the *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) developed by SJVAPCD, "Emission reductions achieved through implementation of offset requirements are a major component of the District's [SJVAPCD] air quality plans. Thus, projects with emissions below the threshold of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's [SJVAPCD] air quality plan'".

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the "New and Modified Stationary Source" rule, SJVAPCD Rule 2201. Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate per SJVAPCD Rule 2010. Additionally, best available control technology (BACT) is required on specific types of stationary equipment. Through this mechanism, the SJVAPCD ensures that all stationary sources within the project area would be subject to the standards of the SJVAPCD and that new developments do not result in net increases in stationary sources of criteria air pollutants.

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. With implementation of mitigation presented below along with compliance with BACT requirements; compliance with all applicable District regulations and composting rules; the acquisition of emissions reduction credits (offsets); and/or changes in operational components and alteration to material handling processes determined during the SJVAPCD permitting process, the project would not conflict with or obstruct implementation of the applicable air quality plan.

Construction – Criteria Air Pollutants

Construction of the project would result in emissions of the following air pollutants – ROG, NO_x, CO, PM₁₀, PM_{2.5}, and SO_x. Emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from clearing the land, and exposed soil eroded by wind. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. On-site sources of criteria air pollutant emissions would include off-road equipment and fugitive dust, and off-site sources would include hauling and vendor trucks and worker vehicles.

For a summary of construction emissions, see **Table 4.3-8, Project Construction Emissions (Before Mitigation)**, above in this SEIR. The total project-related annual temporary air emissions from construction are presented in Appendix D of this SEIR, Table 4-1, *Project Construction Emissions (Before Mitigation Air Quality Impact Assessment)*, of the *Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020).

The SJVAPCD thresholds of significance are also included in these tables as well as information regarding whether annual construction emissions for ROG, NO_x, and PM₁₀ would exceed those thresholds. As presented in **Table 4.3-8** and Table 4-1 of Appendix D of this SEIR, short-term construction emissions are predicted to be less than the SJVAPCD significance threshold levels for all pollutants. Compliance with SJVAPCD Regulation VIII, as required by law, would ensure that project-generated fugitive dust would be reduced to the extent feasible and that dust impacts would be less than significant.

Implementation of Mitigation Measure MM 4.3-1, MM 4.3-3, MM 4.3-5, and MM 4.3-6 would minimize construction-related criteria air pollutant emissions from various on-site and off-site emission sources. The project would comply with applicable federal, State, and local laws and regulations. Idling restrictions (MM 4.3-2) on trucks and off-road equipment would minimize combustion pollutant emissions, including NO_x, by prohibiting idling for more than five minutes except as permitted by ARB. Mitigation Measure MM 4.3-3 would require a Fugitive Dust Control Plan to reduce PM₁₀ (inclusive of PM_{2.5}) emissions from grading and other earthmoving and construction activities by development of a plan to implement fugitive dust control measures during construction in compliance with the requirements of SJVAPCD Regulation VIII.

Operations – Criteria Air Pollutants

The project operations would generate operational criteria air pollutants from mobile sources and stationary sources, as shown in Appendix D of this SEIR, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020), Tables 4-2, *Project Operation Emissions (Before Mitigation) of Appendix D in this SEIR*. For a summary of construction emissions, see **Table 4.3-9, Project Operation Emissions (Before Mitigation)**, above in this SEIR.

As shown in these tables, project-generated operational emissions exceed the SJVAPCD annual and daily ROG significance thresholds. Other identified emissions sources in related to operations do not exceed any of the SJVAPCD CEQA thresholds of significance. Implementation of MM 4.3-1 through MM 4.3-6, as well as with compliance with BACT requirements; compliance with all applicable District regulations and composting rules; the acquisition of emissions reduction credits (offsets); and/or changes in operational components and alteration to material handling processes determined during the SJVAPCD permitting process, ROG impacts would be mitigated to below the VOC/ROG significance threshold.

As shown in **Table 4.3-9**, project-generated operational emissions from non-permitted sources would not exceed the SJVAPCD annual thresholds. In addition, project-generated operational emissions from both permitted and non-permitted sources would not exceed the SJVAPCD annual or daily operational thresholds for NO_x, CO, PM_{2.5}, PM₁₀, or SO_x. The project would comply with applicable federal, State, and local laws and regulations, including the SJVAPCD Regulations and Rules during operation.

Thus, the project proponent would mitigate the project's ROG emissions from composting operation through the implementation of MM 4.3-1 through 4.3-6 and through the SJVAPCD permitting process. As such, the project would result in less than significant impacts to air quality as a result of operation of project stationary sources and would not conflict with or obstruct implementation of the applicable air quality plan.

Required Evaluation Guidelines

CEQA Guidelines and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable AQMP for the projects. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQMP:

1. *Determination that an AQMP is being implemented in the area where the project is being proposed.* SJVAPCD's most recently adopted air quality management plan is its current, modified 2016 8-hour AQMP that is approved by CARB and EPA for the 2008 8-hour O₃ standard.
2. *The project must be consistent with the growth assumptions of the applicable AQMP.* The Kern COG growth modelling for the 2014 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides for future employment/population factors. The project would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the Kern County General Plan and, therefore, incorporated into the AQMP.
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.

As described in Chapter 3, *Project Description*, there will be no new incoming haul traffic to the facility due to the expanded hours, and there will be no increase for incoming refuse or hauling due to the composting operations beyond the existing permitted conditions. However, due to the addition of the new composting operation, it is anticipated that an additional two new employees will be hired and therefore travel to and from home each day. Offsite, new worker travel has therefore been addressed for both paved road emissions and vehicle exhaust. Mobile source operation emissions from these two new workers, both daily and annual emissions have no criteria pollutant emissions within 3 orders of magnitude of the 100 pound per day standard set forth by SJAPCD APR-2030. The growth represented by the project in the form of additional workers is negligible compared to the population growth anticipated by the Kern COG 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.

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 traffic analysis 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 stationary sources.

The Kern COG's Regional Conformity Analysis Determination demonstrates that the regional transportation expenditure plans, Destination 2030 Regional Transportation Plan and Federal Transportation Improvement Program, in the Kern County portion of the San Joaquin Valley air quality attainment areas would not hinder the efforts set out in CARB's State Implementation Plan (SIP) for each area's non-attainment pollutants (CO, O₃, and PM₁₀). The analysis uses an adopted regional growth forecast, governed by both the adopted *Kern COG Policy and Procedure Manual* and a *Memorandum of Understanding* between the County of Kern and Kern COG. The project shows conformity with CARB's three step approach and project growth was anticipated by the Kern COG RTP/SCS and therefore incorporated into the AQMP. Since the project is consistent with the 2014 RTP/SCS and since the RTP/SCS projections are incorporated into the SIP, the project is also consistent with the SIP.

In summary, implementation of the following mitigation measures, MM 4.3-1 through 4.3-6, would ensure that the project would not conflict with or obstruct implementation of the applicable air quality plan during construction or operation and would reduce impacts to less than significant.

Mitigation Measures

- MM 4.3-1:** The project is required to comply with applicable state and federal air pollution control laws and regulations, and with applicable rules and regulations of the San Joaquin Valley Air Pollution Control District (SJVAPCD) during construction and operations, including obtaining the required permit for the modified facility.
- MM 4.3-2:** The project proponent shall continuously comply with the following measures during construction and operations to control emissions from on-site dedicated equipment (equipment that would remain on-site each day):
- a. All on-site off-road equipment and on-road vehicles for operation/maintenance shall meet the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied gas, or electric, as appropriate.
 - b. All equipment shall be turned off when not in use, where feasible. Engine idling of all equipment shall be minimized.
 - c. All equipment engines shall be maintained in good operating condition and in tune per manufacturer's specification.
- MM 4.3-3:** Prior to issuance of grading permit, the project proponent shall submit a Fugitive Dust Control Plan to SJVAPCD for review and approval. The Fugitive Dust Control Plan shall reduce emissions, during construction of particulate matter that is 10 microns or less and 2.5 microns or less in diameter (PM₁₀ and PM_{2.5}). 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. The following dust control measures shall be implemented:
 - 1. All on-site unpaved roads shall be effectively stabilized using water or chemical soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts included loss of vegetation.
 - 2. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles will be watered as needed to limit dust emissions to less than 20 percent opacity or covered with temporary coverings.
 - 3. Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and those activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used to minimize visible dust plumes.
 - 4. Track-out debris onto public paved roads shall not extend 50 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday.
 - 5. All hauling materials should be sufficiently moist while being loaded into dump trucks.
 - 6. All haul trucks hauling soil, sand and other loose materials on public roads shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).
 - 7. Soil loads should be kept below 6 inches or the freeboard of the truck.
 - 8. Drop heights should be minimized when loaders dump soil into trucks.
 - 9. Gate seals should be tight on dump trucks.
 - 10. Traffic speeds on unpaved roads shall be limited to a maximum of 25 miles per hour.
 - 11. All grading activities shall be suspended when visible dust emissions exceed 20 percent.
 - 12. Other fugitive dust control measures as necessary to comply with San Joaquin valley Air Pollution Control District Rules and Regulations.
 - 13. Disturbed areas should be minimized.

MM 4.3-4: Valley Fever. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions:

- a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a “Valley Fever Training Handout”, training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 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, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

Construction Measures:

MM 4.3-5: Fugitive Dust Control Measures. The project proponent shall ensure construction of the project shall be conducted in compliance with 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 one 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 six inches.
 6. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.
 7. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
 8. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds.
 9. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.
 10. Where acceptable to the Kern County Fire Department, 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 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.
- b. **Site Construction.** After active clearing, grading, and earth moving is 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 (cm/S).
 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 on at a minimum of once daily, or as necessary to prevent substantial offsite 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.
- d. **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.

MM 4.3-6: 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 manufacturer's specifications.
- b. Construction- and project-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than ten minutes.
- c. No individual piece of construction equipment shall operate longer than eight consecutive hours per day.

- d. Electric equipment and existing power sources 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 NOX emissions.
- f. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
- g. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible.
- h. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use, where feasible.
- i. Off-road equipment engines over 50 horsepower shall be Tier 2 certified or higher (unless Tier 2 equipment, has been determined to not be available).

Level of Significance

With implementation of Mitigation Measures MM 4.3-1 through 4.3-6, impacts would be less than significant.

Impact 4.3-2 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 standard. Specifically, would implementation of the project exceed any of the following adopted thresholds of the San Joaquin Valley Air Pollution Control District

Cumulative air quality impacts are the effect of long-term emissions of the project plus any existing emissions at the same location, as well as the effect of long-term emissions of reasonably foreseeable similar projects, on the projected regional air quality or localized air pollution in the County. Criteria air emissions is not within the jurisdiction and control of the County, as Lead Agency, rather under the authority of the SJVAPCD rules and regulations.

The potential for the project to result in a cumulatively considerable impact, per the SJVAPCD guidance and thresholds, is based on the project's potential to exceed the project specific annual significance thresholds. As evaluated under Impact 4.3-1, the project would exceed the annual SJVAPCD threshold for ROG during ongoing operation. However, as described, the project proponent would mitigate the project's operational ROG stationary source emissions through the implementation of MM 4.3-1 through 4.3-6 and by means of compliance with BACT requirements; compliance with all applicable District regulations and composting rules (MM 4.3-1); the acquisition of emissions reduction credits (offsets); and/or changes in operational components and alteration to material handling processes determined during the SJVAPCD permitting process; therefore, the project would not result in project-specific impacts for this pollutant. The project's proposed development is also consistent with the growth development projected in the Kern COG RTP/SCS. As such, the project would be consistent with the policies of the applicable SJVAPCD air quality attainment plans.

Based on these considerations, the project's potential to 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 would be less than significant. However, the geographic scope of the cumulative air quality analysis is the San Joaquin Air Basin (SJVAB), where air quality conditions are regulated by SJVAPCD. The emissions would be cumulatively significant if, with mitigation, there remains any increase in a pollutant for which the SJVAB is classified as a nonattainment area. The proposed project would result in a net increase in annual emissions overall. The proposed project would result in significant cumulative impacts to air quality which, although mitigated to the extent feasible by the implementation of mitigation measures required for the project, will remain as cumulatively unavoidable adverse impacts.

In addition, as determined in the 2009 Final EIR, Exhibit B – Statement of Overriding Considerations (State CEQA Guidelines Section 15093), despite the implementation of all feasible mitigation measures, the 2009 project would have localized cumulative impacts that are considered significant and unavoidable. It was determined that air quality emissions from landfills located within the SJVAB are cumulatively significant before emissions are considered. While the 2009 project emissions for the ozone forming ROG and NOx, as well as CO, SO₂, and PM₁₀/PM_{2.5} would not exceed the established thresholds, any increase in a pollutant for which the SJVAB is classified as a nonattainment area could be considered cumulatively significant. Therefore, pursuant to Section 15093, the County balanced the benefits of the 2009 project against unavoidable environmental risks in determining whether to approve the project. Findings of Fact were developed, which provided that mitigation measures and/or alternatives to the 2009 project that would substantially reduce or avoid these significant impacts are infeasible. The 2009 project offered several benefits that outweigh the unavoidable adverse environmental effects, which are summarized and presented in the 2009 Final EIR, Appendix B of this SEIR. The 2009 Statement of Overriding Considerations is applicable to this project considering the ongoing landfill operations and proposed expansion of hours.

Nevertheless, because assuring that all other future projects within the SJVAB are required to fully offset nonattainment criteria air emissions is not within the jurisdiction and control of the County, as Lead Agency, cumulative emissions of nonattainment criteria pollutants would be significant and unavoidable.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 through MM 4.3-6.

Level of Significance

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-6, impacts would be significant and unavoidable.

Impact 4.3.3: The project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are considered locations with people who are more sensitive to the effects of air pollutants. The reasons for increased sensitivity include preexisting health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be sensitive receptors because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods of time which results in greater exposure to ambient air quality. Recreational uses, such as a parks and hiking trails,

are also considered sensitive due to the greater exposure to ambient concentrations of pollutants because vigorous exercise associated with some forms of recreation places a high demand on the human respiratory system.

The project site is located in a heavy agriculturally developed area with very limited residential and commercial development. Four rural residences are located within a two-mile radius of the property; two of the residences are located approximately one-half mile to the west, one residence is located approximately 1.25 miles to the south, and one residence is located approximately 1.0 mile to the north of the project boundary. There are no schools, daycare centers, or senior centers identified within two miles of the project. **Figure 4.3-1, *Nearest Sensitive Receptors to the Project Site***, identifies the location of the sensitive receptors.

Valley Fever

As previously discussed, the project would be required to comply with Rule 8021 Section 6.3, which requires applicants to develop, prepare, submit, obtain approval of, and implement a Dust Control Plan, which would reduce fugitive dust impacts to less than significant for all construction phases of the project, which would also control the release of the *Coccidioides immitis* fungus from construction activities. This requirement is included in MM 4.3-2 and MM 4.3-3; however, exposure to the *Coccidioides immitis* fungus would be potentially significant and MM 4.3-4 is provided to further reduce impacts associated with Valley Fever and to protect on-site construction workers and nearby receptors.

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants (TAC)

The GAMAQI states, “when evaluating potential impacts related to HAPs, Lead Agencies should consider both of the following situations:

1. a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor, and
2. a residential development or other sensitive receptor is proposed for a site near an existing source of HAPs.”

The GAMAQI recommends that Lead Agencies also consider the situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The project would result in emissions of HAPs and would be located near existing residences and businesses; therefore, an assessment of the potential risk to the population attributable to emissions of HAPs from the project was prepared to address construction and operational activities.

To standardize the assessment of HAPs, OEHHA has published guidance intended for the preparation of health risk assessments. To implement the OEHHA guidance based on project information, the SJVAPCD has developed a 3-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. Health risk is determined using the Hotspots Analysis and Reporting Program (HARP) software distributed by ARB, which requires peak one-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Health Risk Assessment methodologies, assumptions, and results are presented in Appendix A of the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020).

Construction-Related Health Risk Assessment

The results of the construction related screening of HAPs are provided in Appendix D, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020) and in **Table 4.3-7, HRA Results**, above. Construction of this project would emit TACs that would result in maximum residential cancer risk, chronic hazard index, and acute hazard index all below the SJVAPCD thresholds of 20, 1, and 1, respectively. Impacts associated with the project's potential to expose sensitive receptors to substantial pollutant concentrations as a result of project-generated construction emissions would be less than significant, and no mitigation related to reducing health risks is required. 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 is 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 COVID-19 death in the United States (Harvard, 2020). While, construction dust suppression measures would be implemented in Mitigation Measure MM 4.3-5, exposure to dust during construction could still occur which could increase the health susceptibility and increase the severity of the disease. In addition to implementation of Mitigation Measure MM 4.3-5, the project would implement Mitigation Measure MM 4.3-7, 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.

Therefore, implementation of Mitigation Measures MM 4.3-5 and MM 4.3-7 would be required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints.

Stationary Source-Related Health Risk Assessment

Stationary source health risks were evaluated using the prioritization score method, and results are presented in Appendix D, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020), in this SEIR. In addition, as presented in **Table 4.3-7, HRA Results** above, potential stationary sources associated with land uses under the project would emit TACs that would result in the maximum residential prioritization scores for cancer risk, chronic hazard index, and acute hazard index all below the SJVAPCD thresholds of 20, 1, and 1, respectively. Impacts associated with the project's potential to expose sensitive receptors to substantial pollutant concentrations as a result of project-generated stationary source emissions would be less than significant and no mitigation for HAPs is required.

Health Risk Assessment

The Health Risk Assessment (HRA) follows the outline and protocols presented in the following guidance documents:

- Office of Environmental Health Hazard Assessment (OEHHA), 2015, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015.
- *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts*, March 19, 2015.

- SJVAPCD APR-1906, *Framework for Performing Health Risk Assessments*, revised July 1, 2018.

The methodologies provided by the above documents were utilized to reasonably assess human health risks and hazards associated with air toxic emissions from the proposed project. Details of the HRA can be found in Section 5.0 of the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020). See Appendix D of this SEIR.

The HRA provides upper-bound, health-conservative estimates of potential human health impacts that may be attributable to toxic air contaminant (TAC) emissions from the proposed project. The upper bound estimate of the human health impact is provided per CARB, SJVAPCD, and EPA guidance and methodology and addresses risk of obtaining cancer, and non-cancer health impacts after long-term exposure (chronic) and short-term (acute) exposure durations. The assessment serves as a means of addressing TACs that are emitted, meteorologically dispersed, then exposed to human population directly or by secondary and tertiary means, such as consumption of food products that have absorbed these TACs.

The HRA estimated cancer risks and health hazard indices assuming that potential human receptors were exposed under a Reasonable Maximum Exposure (RME) scenario. The RME is defined as the maximum exposure, then absorption (i.e., chemical intake) that is reasonably expected to occur due to emissions of chemicals of potential concern (COPC) from a site. Because of the health conservative nature of the RME methodology, it is more than highly unlikely that actual human health risks and hazards posed by COPC from the project site will exceed the estimates calculated in the HRA. RME methodology uses conservative exposure factors, such as exposure time, exposure frequency, and average body weight. The results of the Health Risk Assessment are summarized below in **Table 4.3-7, HRA Results**.

CO Hotspots

A CO “hotspot” can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department’s *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at a Level of Service (LOS) E or worse; (b) a project involves adding signalization and/or channelization to an intersection; or (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization.

The proposed project is not located in the vicinity of an intersection operating at level of service (LOS) E or worse. Also, the proposed project would not result in traffic trip increase during operations. Any trips associated with the small number of operation employees traveling to and from the project site would be nominal and would not decrease the LOS of any intersection in the project vicinity. In addition, as detailed in the project specific trip generation analysis, truck trips and construction worker trips during project construction would be temporary, and would not substantially degrade the LOS of intersections in the project vicinity. Therefore, a CO hotspot analysis is not required and this impact would be less than significant.

Visibility Impacts

As discussed above under Thresholds of Significance above, Kern County has established criteria to determine if a project would potentially result in a visibility impact; however, the SJVAPCD has not

established guidance to address visibility in CEQA documents. Compliance with Regulation VIII, including implementation of all feasible dust control measures specified in GAMAQI and incorporated into a dust control plan, is sufficient mitigation to reduce air quality effects from construction related PM₁₀ emissions to a less than significant level (SJVAPCD, 2015).

The project's potential to expose sensitive receptors to substantial pollutant concentrations associated with visibility impacts would be less than significant with the mitigation measures described above and presented below (MM 4.3-1, MM 4.3-2, and MM 4.3-3), and no additional mitigation is required.

Health Effects of Criteria Air Pollutants

The EPA and CARB have established AAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the 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 AAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project's emissions could cause adverse health effects associated with these pollutants. The SJVAB is designated as a nonattainment area for O₃ and PM_{2.5} under the NAAQS, and non-attainment for O₃, PM₁₀, and PM_{2.5} under the CAAQS.

Regarding health effects of criteria air pollutants, implementation of Mitigation Measure MM 4.3-1 through MM 4.3-6 would reduce the projects potential to result in regional health effects associated with ROG, NO_x, PM₁₀ and PM_{2.5}; however, localized health effects associated with NO_x, PM₁₀, and PM_{2.5} could occur. However, implementation of the mitigation measures described in Section 4.3.4, above, would reduce both localized and regional project generated construction and operational emissions.

Sierra Club vs. County of Fresno (December 24, 2018)

In *Sierra Club V. County of Fresno* (S219783) (*Sierra Club*) the Supreme Court held that CEQA requires environmental impact reports to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that that CEQA "does not mandate" that EIRs include "an in-depth risk assessment" that provides "a detailed comprehensive analysis ... to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure." *Id.* at 1665. However, correlating the project's criteria air pollutant to specific health impacts, particularly with respect to 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 SCAQMD who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the SJVAPCD that would make this analysis invalid.

Writing as amicus curiae in *Sierra Club*, the SJVAPCD explained that "[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the (National Ambient Air Quality Standards [NAAQS]). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task" (SJVAPCD, 2015).

Instead, the SJVAPCD explained that it assesses a project's potential to exceed NAAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD, 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have

been set at a level that ensures that NAAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD, 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will “not yield reliable information because currently available modeling tools are not well suited for this task” (SJVAPCD, 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and “[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved” (SJVAPCD, 2015).

This inability to “accurately ascertain local increases in concentration” of mass emissions and then to further link emissions with health effects is particularly true for O₃ and its precursors NO_x and ROG and VOC; O₃ is not directly emitted into the air, but is instead formed as ozone precursors undergo complex chemical reactions through sunlight exposure (SJVAPCD, 2015). Given the complex nature of this process, and the fact that O₃ can be transported by wind over long distances, “a specific tonnage amount of NO_x or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area” (SJVAPCD, 2015). For this reason, the photochemical analysis for O₃ is done on a regional scale and it is inappropriate to analyze O₃ impacts at a local or project-level basis because a localized analysis would at most be speculative, and at worst be misleading. Speculative analysis is not required by CEQA (*CEQA Guidelines* Section 15145; *Laurel Heights Improvement Association V. Regents of the University of California* 1988).

The SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O₃ or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD, 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O₃ and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact” (SJVAPCD, 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine “whether and to what extent emissions from an individual project directly impact human health in a particular area” (SJVAPCD, 2015). The SJVAPCD explained that this is particularly true for development projects like the project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that “an agency should not be required to perform analyses that do not produce reliable or meaningful results” (SCAQMD, 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O₃, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to *all* regional increases (SCAQMD, 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amount of PM_{2.5}, the primary author of the methodology has reported that it “may yield unreliable results due to various uncertainties” and CARB staff has been directed by its Governing Board to reassess and improve it, which factor “also counsels against setting any hard-and-fast rule” about conducting this type of analysis (SCAQMD, 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of Appendix C-2 of this EIR.

Mitigation Measures

TAC Related to Health Risk

No mitigation measures are required.

CO Hotspots

No mitigation measures are required.

Visibility Impacts

No mitigation measures are required.

Valley Fever

Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-3 through MM 4.3-7.

COVID-19

MM 4.3-7: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department for review and approval.

Level of Significance

Implementation of Mitigation Measures MM 4.3-1 and MM 4.3-3 through MM 4.3-7 would minimize the potential for exposure of onsite workers and offsite residents to Valley Fever and COVID-19. Therefore, impacts would be less than significant.

Impact 4.3-4: The project would result in other emissions (such as those leading to odors) adversely affecting a substantial number.

Types of land uses that typically pose potential odor problems include uses proposed under this project – composting facilities, landfills, and waste transfer. However, the occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. The project includes land uses with sources that have the potential to generate substantial odors.

SJVAPCD's GAMAQI provides screening level distances for which a project may have adverse air quality impact. The screening level distance for 'Sanitary Landfill and Compost Facility' is 1 mile. Because there are receptors within this distance, project odor significance is determined by: 1) more than one confirmed complaint per year averaged over a three-year period, or 2) three unconfirmed complaints per year averaged over a three-year period. The project site, as summarized in Appendix D of this SEIR, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020), has not received an average of

one odor complaint for the past three years or three unconfirmed complaints averaged over a three-year period.

The new covered aerated static pile composting operation emissions consist of fugitive emissions of VOCs and ammonia (NH₃) that would be controlled by a waterproof, windproof, and breathable three-layer laminate cover technology to completely enclose compostable feedstocks. As described in Chapter 3, *Project Description* and above in Section 4.3.4 of this Draft SEIR, the engineered cover design will significantly minimize the emission of objectionable odors. Odors and other gaseous substances dissolve within the fabric cover and drop back into the compost pile where bacteria continue to break down. Essentially, the cover traps odors and fugitive emissions within the system. The air maintains the population and diversity of beneficial oxygen-consuming bacteria and has the benefit of controlling the foul odors that anaerobic composting has the potential to emit. The composting system is designed to maintain moisture levels by reducing evaporative losses, retain heat in smaller piles, and reduce odors through water absorption of odorous molecules on the underside of the fabric covers.

Additionally, the project site currently maintains and adheres to a site and operational specific Odor Impact Minimization Plan and Report of Compost Site Information that includes various odor control measures. Such measures include descriptions of potential odor sources at the project site, description of potential methods for reducing odors, procedures describing the actions to be taken when an odor complaint is received, and contingency measures to curtail emissions in the event of a public nuisance complaint. Each of these regulatory documents would be required to be revised per Title 14 CCR regulations to demonstrate the proposed compost operations updates and new odor control measures associated with composting activities. These documents would be submitted to Kern County Public Health Services, Environmental Health Division and California Department of Resources Recycling and Recovery.

With use of the engineered fabric cover technology, required implementation and revision of the Odor Impact Minimization Plan and Report of Compost Site Information, and compliance with applicable SJVAPCD composting rules, the project is not expected to result in significant odor impacts and would not result in other emissions (such as those leading to odors) adversely affecting a substantial number.

Mitigation Measures

Implementation of Mitigation Measure MM 4.3-1.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description*, of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Projects List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

As noted in Impacts 4.3-1 and 4.3-2 above, the SJVAB is in 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. Furthermore, project stationary source permitted emissions (related to composting) are required to be reduced or offset under applicable SJVAPCD permit rules and permitting requirements.

Consistent with the GAMAQI, a 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 nonattainment under applicable federal or State ambient air quality standards (SJVAPCD, 2015, Section 7.14).

However, as noted above in Impact 4.3-2, due to scientific uncertainty regarding the relationship between NO_x and VOC reductions (the ratio of NO_x reductions that can be achieved by VOC reductions), current non-attainment status, and because the County (as Lead Agency) does not have jurisdiction and control over all potential projects in the SJVAB and thus cannot assure that such projects will fully offset or reduce their criteria emissions pursuant to a emission reduction agreement or per SJVAPCD permit rules and regulations, while the project does not result in a cumulatively considerable air quality impact, cumulative impacts for criteria air pollutants are considered significant and unavoidable.

Cumulative Hazardous Air Pollutants (HAPs)

The GAMAQI also states that when evaluating potential impacts related to HAPs, "impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards." Based on the results of a health risk assessment, the project would not pose a significant cumulative CO or HAPs impact.

Cumulative Carbon Monoxide (CO) - Mobile Sources

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the LOS on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or
- A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

The CO hotspot analysis and results are previously discussed in Impact 4.3-3. As such, a CO hotspot analysis is not required for the proposed project and this impact would be less than significant.

Consistency with Existing Air Quality Plans

Conformity to existing plans is relevant only with respect to operational emissions. Refer to Impact 4.3-1 statements and analysis above. Thus, the project would have no cumulative impact with respect to consistency with existing air quality plans. Impacts would be less than significant.

San Joaquin Valley Air Basin Emissions

The most recent, certified SJVAB Emission Inventory data available from the San Joaquin Valley APCD is based on data gathered for the 2012 annual inventory. This data would be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O₃ standards. Appendix D of this SEIR, *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* (SCS, 2020), provides a look at the impacts proposed by the project to the SJVAB Emissions Inventory. None of the project scenarios pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the project is approved.

Odors

Impacts would be less than significant for the project, but potentially significant on a cumulative level. The project would add a new stationary source, in the form of composting operations, with the potential to generate substantial odors to an area that has existing odor sources and sensitive receptors. However, with the engineered composting system and implementation of the required measures for odor described above, the project would not cause an incremental odor effect which is cumulatively considerable and, thus, cumulative odor impacts are less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 through MM 4.3-7.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-7, impacts would be considered significant and unavoidable for criteria air pollutants.

Section 4.4

Greenhouse Gas Emissions

4.4.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified Final EIR and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to greenhouse gas (GHG) emissions associated with the proposed project. In the 2009 EIR, there was not a dedicated GHG section. GHG impacts were analyzed in Chapter 4.3, *Air Quality*, and Chapter 4.4, *Global Climate Change*. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

This section of the SEIR describes the global and California greenhouse gas (GHG) conditions, and the potential GHG impacts associated with the project’s construction and operation. The analysis in this section is based on information provided in the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill* prepared by Stearns, Conrad & Schmidt Consulting Engineers, Inc. (SCS, 2020), for the project (Appendix D of this SEIR). The project’s GHG impact assessment 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 CEQA.

In addition, the analysis in the section is based on information presented in the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020* prepared by SCS Engineers for the project proponent (Appendix E of this SEIR). The inventory provides a system-wide analysis of GHG emissions related to landfills, utilities, haul vehicles, recycling operations, and carbon sequestration to demonstrate compliance with local, state, and federal GHG guidelines, goals, and mandates.

This proposed composting facility, enhanced waste diversion activities, and expanded landfill operations 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, such as Senate Bill 1383, directing more diversion from landfills, which results in a higher demand for resource recovery, recycling, and composting.

4.4.2 Environmental Setting

As described in Chapter 3, *Project Description*, in this SEIR, the project site is an existing class III municipal solid waste landfill with the operation of several diversion programs and associated landfilling

activities. The project site is in the unincorporated area of western Kern County, California and is sited within the existing Shafter-Wasco Recycling & Sanitary Landfill (RSLF). The landfill operates under an existing conditional use permit (CUP), solid waste facility permit, and waste discharge requirements.

GHGs and climate change are a cumulative global issue. CARB and the USEPA regulate GHG emissions within the State of California and the United States, respectively. While CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. CARB has divided California into regional air basins. The project site is located in the Kern County portion of the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Climate Change

In the early 1960s, scientists recognized that carbon dioxide levels in the atmosphere were rising every year. Also noted was that several other gases, including methane and nitrous oxides were also increasing. Levels of these gases have increased by about 40 percent 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. Man-made 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., water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)), 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 CO₂e (carbon dioxide equivalent). 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 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 2005 and 2014, with 2014 being the warmest on record (USEPA, 2015a). Climate models predict that the average temperature at the Earth’s surface could increase from 2 to 11.5°F by the end of this century if GHGs continue to increase (USEPA, 2014).

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 (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 snow pack, 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 eight 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, it is anticipated that a global sea level rise of two feet could occur by 2100 (USEPA, 2014).

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 percent during the last century. During the same period, sea level rose eight 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.

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 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 snowpack is expected to experience a 25 to 40 percent 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 (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 salt water 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 salt water 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 and 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 regions' mountainous terrain (DWR, 2008).

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (e.g., gases used for aerosols). The most relevant GHGs are H₂O, CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. These gases prevent heat from escaping to space.

The principal climate-change gases resulting from human activity that enter and accumulate in the atmosphere are listed below (USEPA, 2015b).

- Carbon dioxide – CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of

cement). CO₂ is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.

- Methane – CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- Nitrous oxide – N₂O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- Fluorinated gases – HFCs, PFCs, and SF₆ are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- Sulfur hexafluoride (SF₆) – Sulfur hexafluoride 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. The California Climate Action Registry (Registry) lists SF₆ as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

GWP is a relative measure, compared with carbon dioxide, of a compound’s residence time in the atmosphere and ability to warm the planet. Mass emissions of GHGs are converted into carbon dioxide equivalent (CO₂e) emissions for ease of comparison.

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). Human activities associated with the Industrial Revolution beginning in the late 18th century have also changed the composition of the atmosphere. The burning of fossil fuels, such as coal and oil, and deforestation has caused the concentrations of heat-trapping GHGs to increase significantly in our atmosphere. 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 global warming.

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 *oxides of nitrogen* [NO_x]), and CH₄ (often from unburned natural gas). For 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 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. To address climate change concerns, the United States has established a comprehensive policy to deal with global warming. This policy has three basic components:

- Slowing the growth of emissions;
- Strengthening science, technology, and institutions; and
- Enhancing international cooperation.

Currently, the federal government is using voluntary and incentive-based programs to reduce emissions and establishing a variety of programs to promote climate technology and science. The United States prepared a comprehensive strategy in February 2002 to reduce GHG intensity by 18 percent over the 10-year period from 2002 to 2012. GHG intensity is a measure of GHG emissions per unit of economic activity. By meeting this commitment, the United States will prevent the release of more than 500 million metric tons of GHGs cumulatively between 2002 and 2012 (Climate Vision, 2008).

Emissions Inventories

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 million metric tons of CO₂e (MMT CO₂e). Worldwide anthropogenic emissions of GHGs were approximately 49,000 MMT CO₂e in 2004. CO₂ emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 MMT CO₂e (includes land use changes) and CO₂ emissions from all sources account for 76.7 percent of the total. CH₄ emissions account for 14.3 percent of GHGs and N₂O emissions account for 7.9 percent (IPCC, 2007).

Based on data from the USEPA, the total GHG emissions in the United States were 6,870 MMT CO₂e in 2013, a 7.4 percent increase from 1990 levels. Since 1990, GHG emissions in the U.S. have increased at an average rate of 0.3 percent. Emissions increased from 2013 to 2014 by 1 percent. The increase was due to: (1) colder winter conditions in the first quarter of 2014 resulting in an increased demand for heating fuel in the residential and commercial sectors; (2) an increase in transportation emissions resulting from an increase in vehicle miles traveled and fuel use across on-road transportation modes; and (3) an increase in industrial production across multiple sectors resulting in increased industrial sector emissions. In 2014, the electrical, transportation, industrial end-use sectors accounted for 79 percent of the total US emissions, with electrical, transportation, and industrial sources emitting 30 percent, 26 percent and 21 percent of CO₂ emissions, respectively. The residential and commercial end-use sectors accounted for 12 percent and agriculture accounted for the remaining 9 percent of CO₂ emissions (USEPA, 2016).

California Greenhouse Gas Inventory

California produced approximately 441.5 gross MMTCO₂e in 2014. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2014, accounting for 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector at 24 percent and the electric power sector (including both in-state and out-of-state sources) at 20 percent (CARB, 2016a). CARB has projected that, unregulated, statewide GHG emissions for the year 2020 will be 509 MMTCO₂e (CARB, 2015). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions. California GHG emissions by economic sector from 2008 to 2014 are summarized in **Table 4.4-1**.

TABLE 4.4-1: CALIFORNIA GREENHOUSE GAS EMISSIONS (MMTCO₂E)									
Emission Inventory Category	2009	2010	2011	2012	2013	2014	2015	2016	2017
Transportation	170.20	165.13	161.76	161.31	160.91	162.53	166.18	168.76	169.86
Electricity Generation (In State)	53.33	46.75	41.10	51.02	49.42	51.68	49.88	42.28	38.45
Electricity Generation (Imports)	48.04	43.59	46.87	44.50	39.98	36.79	33.93	26.32	23.94
Commercial	12.89	13.58	13.71	13.41	13.30	12.52	12.67	13.14	13.02
Industrial	87.90	91.50	90.17	91.08	93.69	94.02	91.48	89.49	89.40
Residential	29.32	30.06	30.51	28.21	29.02	23.75	24.17	25.27	26.00
Agriculture	32.85	33.68	34.34	35.46	33.99	35.06	33.75	33.51	32.42
High Global Warming Potential	12.29	13.52	14.53	15.51	16.75	17.73	18.60	19.26	19.99
Recycling and Waste	8.27	8.37	8.47	8.49	8.52	8.59	8.73	8.81	8.89
Total Gross Emissions	457.3	448.5	443.6	451.2	447.7	444.7	441.4	429.0	424.1
SOURCE: CARB, 2019.									

Kern County Greenhouse Gas Inventory

In 2012, SJVAPCD prepared a communitywide GHG inventory for all of Kern County (SJVAPCD 2012). Year 2005 was used as the base year; GHG emissions were estimated to be 27 MMTCO₂e. The fossil fuel industry sector represented 40% of the 2005 total, followed by the electricity consumption sector at 22%. GHG emissions from electricity generation in Kern County were included in the Countywide GHG emissions, but not added in the totals. Kern County's 2005 GHG emissions, not including subtraction of sequestration sectors, are presented in **Table 4.4-2, 2005 Kern County Baseline Greenhouse Gas Emissions**.

Table 4.4-2: 2005 Kern County Baseline Greenhouse Gas Emissions		
Category	GHG Emissions (MMTCO_{2e})	Percent of Total
Electricity Production	13,002,127	(*)
Electricity Consumption	6,039,114	22%
Residential/Commercial/Industrial Combustion	1,281,498	5%
Transportation	4,569,913	17%
Fossil Fuels Industry	10,928,153	40%
Industrial Processes	1,852,124	7%
Waste Management	120,494	< 1%
Agriculture Fugitives	2,024,470	7%
Forestry and Land Use	11,028	<1%
Other Sources	218,823	1%
Total	27,045,617	
Notes: (*) = The Kern County Communitywide GHG emissions inventory included emissions from electricity production for completeness purposes only, this sector was not included in further descriptions of Kern County's emissions. Source: SJVAPCD 2012		

4.4.3 Regulatory Setting

Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (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).

In 1994, the United States joined a number of 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 (UNFCCC, 2014).

A particularly notable result of the UNFCCC efforts was a treaty known as the Kyoto Protocol treaty in 1997, which came into force in 2005 following ratification by Russia. When countries sign the treaty, they

demonstrate their commitment to reduce their emissions of GHGs or engage in emissions trading. As of current, a total of 192 countries and other governmental entities have ratified the agreement. Notable exceptions include the United States. 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, amended in 1999, 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).

More recent UNFCCC efforts include the Paris Agreement (or Paris climate accord) which addresses GHG mitigation, adaptation and finance starting in the year 2020. The Agreement aims to respond to the global climate change threat by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. In the Paris Agreement, each country determines, plans and regularly reports its own contribution it should make in order to mitigate global warming. As of February 2018, 195 UNFCCC members have signed the agreement, including the United States. However, in June 2017, U.S. President Donald Trump announced his intention to withdraw the United States from the agreement, with the earliest effective date of withdrawal for the U.S. in November 2020. Global warming and climate change have received substantial public attention for more than 28 years. For example, the United States 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 U.S. The USEPA has not established any ambient air quality standards for GHGs as the CAA does not specifically regulate GHG emissions; however, in 2007, in *Massachusetts v. U.S. Environmental Protection Agency*, the U.S. Supreme Court found that GHGs are pollutants covered under the CAA. The Court held that the USEPA must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution that may 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 Section 202(a) of the CAA. 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.

In 2009, the USEPA Administrator signed Proposed Endangerment and Cause or Contribute Findings for GHGs under Section 202(a) of the CAA. 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 greenhouse effect as air pollution that endangers public health and welfare under Section 202(a) of the CAA. The 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, made effective in 2010.

In 2009, the USEPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the USEPA administrator should regulate and develop standards for “emission[s] of air pollution from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The rule addresses Section 202(a) in two distinct findings. The first addresses whether the concentrations of the six key GHGs (CO, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and, therefore, contribute to the threat of climate change.

The USEPA Administrator found that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in “high atmospheric levels” of GHG emissions, which are likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wildfires, droughts, sea level rise, and higher intensity storms) are a threat to the public health and welfare. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.

The USEPA’s final Findings respond to the 2007 U.S. Supreme Court decision that GHGs fit within the CAA definition of air pollutants. These two distinct findings by the USEPA 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 in 2009 as Title 40 of the CFR, Part 98: Mandatory Green House Gas Reporting (40 CFR 98).

Specific GHG Regulations that the USEPA has adopted (to date) include:

40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule. This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons (MT) of CO₂e 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.

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).

State

The State of California has been very active in the area of climate change regulation. Most of this is an outgrowth of Assembly Bill (AB) 32, which is the basis upon which most of California’s climate change regulation is based. A second bill, Senate Bill (SB) 32, went further in reducing future GHG emissions in the State. These laws are described below, along with a variety of laws, rules, regulations, and executive orders designed to reduce the emissions of GHG from activities in and supporting the State of California.

There are a variety of statewide and local air pollution control district (APCD)-level rules and regulations that have been implemented or are in development in California that mandate the quantification or reduction of GHGs. Under CEQA, an analysis and mitigation of emissions of GHGs and climate change in relation to a project is required when it has been determined that a project will result in a significant increase in GHGs. However, neither thresholds of significance nor methods of analysis have been defined in CEQA. Certain APCDs have proposed their own levels of significance.

California Environmental Quality Act (CEQA)

In 1998, SJVAPCD adopted its *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) to provide lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. SJVAPCD subsequently revised its GAMAQI document in January 2002 and then again in March 2015. Key elements of the 2015 GAMAQI document (SJVAPCD, 2015) that are evaluated as part of this analysis include: GHG Emissions Assessment: On December 17, 2009, SJVAPCD adopted the District Policy, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD, 2009a). In support of the policy, District staff prepared a staff report, *Addressing Greenhouse Gas Emissions Under the California Environmental Quality Act* (SJVAPCD, 2009c). These documents continue to be the relevant policies under SJVAPCD to address GHG emissions under CEQA.

Rather than establishing specific numeric thresholds of significance (as in the case of criteria pollutant emissions), the SJVAPCD GHG CEQA 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 the CARB's statewide GHG Cap-and-Trade Program). Second, a project can demonstrate implementation of Best Performance Standards (BPS) to reduce GHG emissions. Finally, a project can demonstrate achievement of a 29 percent reduction in GHG emissions from "business-as-usual" (BAU), which is determined based on multiplying 2002-2004 emission factors by the activity expected to occur in 2020.

Executive Order S-3-05 and B-30-15

In 2005, in recognition of California's vulnerability to the effects of climate change, Executive Order S-3-05 set forth a series of target dates for statewide emissions of GHGs to be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15 sets a target date of 2030 to reduce GHG emissions to 40 percent below 1990 levels. Executive Order B-30-15 represents the most aggressive emissions reduction benchmark by any government in North America and aligns California's greenhouse gas reduction targets with those of leading international governments of the 2015 United Nations Climate Change Conference in Paris.

Executive Orders S-3-05 and B-30-15 are only applicable to "State agencies with jurisdiction over sources of greenhouse gas emissions" (Order 4-29-2015 Section 2), and Kern County is not a State agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, which

apportions GHG reductions by economic sector/activity/region, similar to the Assembly Bill (AB) 32 Scoping Plan).

Executive Order B-30-15 requires CARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. The 2030 Draft Scoping Plan (Draft Scoping Plan) will serve as the framework to define the State's climate change priorities for the next 15 years and beyond. In June 2016, CARB released the 2030 Target Scoping Plan Update Concept Paper to describe potential policy concepts to achieve the 2030 target that can be incorporated in the Draft Scoping plan.

Executive Order S-14-08

In 2008, Executive Order S-14-08 establishes a Renewable Portfolio Standard (RPS) for all retail sellers of electricity, and includes the following specifics:

- Requires retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020;
- Requires various state agencies to streamline processes for the approval of new renewable energy facilities and determine priority renewable energy zones; and
- Establishes the requirement for the creation/adoption of the Desert Renewable Energy Conservation Plan (DRECP) process for the Mojave and Colorado Desert regions.

Executive Order S-14-08 does not include any specific requirements that pertain directly 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 B-16-2012

In 2012, Executive Order B-16-2012 specifically focuses on reducing emissions from California's vehicle fleet and directs that California achieve a 2050 target for GHG emission reductions from the transportation sector equaling 80 percent less than 1990 levels. This would be accomplished by achieving benchmarks by 2020 and 2025 for zero-emission vehicle (ZEV) infrastructure and technology advancement.

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 percent 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

In 2007, Senate Bill 97 (SB 97) required the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. In 2009, OPR

submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 including regarding analysis and mitigation of GHG emissions and formal rulemaking. As discussed below, the CEQA significance analysis for the project was conducted in accordance with the proposed 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 performed based on the best available information. In 2010, as directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for greenhouse gas emissions.

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. In 2009, 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

In 2006, AB 32, the Global Warming Solutions Act of 2006, required CARB to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations that identified and required selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, with CARB authorized to enforce compliance with the program; and a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, that must be achieved by 2020. In 2012, CARB adopted rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

In 2007, CARB approved 37 GHG reduction strategies early actions for reducing GHG emissions under AB 32 including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate GHG reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible.

AB 32 Climate Change Scoping Plan

In 2008, CARB adopted the AB 32 Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit (CARB, 2009). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. In 2011, the Scoping Plan was re-approved by the Board and includes the *Final Supplement to the Scoping Plan Functional Equivalent Document*, which includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 MMTCO_{2e}, a 16 percent reduction below the estimated BAU levels would be necessary to return to 1990 levels by 2020

(CARB, 2014). **Table 4.4-3, *Recommended Actions of Climate Change Scoping Plan***, shows the recommended actions contained in Appendices C and E of CARB’s Scoping Plan.

Table 4.4-3: Recommended Actions of Climate Change Scoping Plan		
ID #	Sector	Strategy Name
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards
T-2	Transportation	Low Carbon Fuel Standard (Discrete Early Action)
T-3	Transportation	Regional Transportation-Related GHG Targets
T-4	Transportation	Vehicle Efficiency Measures
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)
T-6	Transportation	Goods-movement Efficiency Measures
T-7	Transportation	Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization
T-9	Transportation	High Speed Rail
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs; More stringent Building and Appliance Standards
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000 GWh
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
CR-1	Electricity and Natural Gas	Energy Efficiency
CR-2	Electricity and Natural Gas	Solar Water Heating
GB-1	Green Buildings	Green Buildings
W-1	Water	Water Use Efficiency
W-2	Water	Water Recycling
W-3	Water	Water System Energy Efficiency
W-4	Water	Reuse Urban Runoff
W-5	Water	Increase Renewable Energy Production
W-6	Water	Public Goods Charge (Water)
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission
I-4	Industry	Refinery Flare Recovery Process Improvements
I-5	Industry	Removal of Methane Exemption from Existing Refinery Regulations
RW-1	Recycling and Waste Management	Landfill Methane Control (Discrete Early Action)

Table 4.4-3: Recommended Actions of Climate Change Scoping Plan		
ID #	Sector	Strategy Name
RW-2	Recycling and Waste Management	Additional Reductions in Landfill Methane – Capture Improvements
RW-3	Recycling and Waste Management	High Recycling/Zero Waste
F-1	Forestry	Sustainable Forest Target
H-1	High Global Warming Potential Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)
H-2	High Global Warming Potential Gases	SF ₆ Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)
H-3	High Global Warming Potential Gases	Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)
H-4	High Global Warming Potential Gases	Limit High Global Warming Potential Use in Consumer Products (Discrete Early Action, Adopted June 2008)
H-5	High Global Warming Potential Gases	High Global Warming Potential Reductions from Mobile Sources
H-6	High Global Warming Potential Gases	High Global Warming Potential Reductions from Stationary Sources
H-7 ^a	High Global Warming Potential Gases	Mitigation Fee on High Global Warming Potential Gases
A-1	Agriculture	Methane Capture at Large Dairies
^a This original measure in the 2008 Scoping Plan was subsequently excluded by CARB in the <i>Final Supplement to the Scoping Plan Functional Equivalent Document</i> in 2014, as CARB staff concluded that implementation of this measure would not be feasible. Source: CARB, 2014.		

AB 32 Scoping Plan Control Strategies for Recycling and Waste Management Sector

As shown in **Table 4.4-3**, above, the 2008 AB 32 Scoping Plan's GHG control measures specific to the recycling and waste management sector include the following potentially applicable for the project:

Scoping Plan Measures RW-1 and RW-2: Landfill Methane Control (Discrete Early Action) and Additional Reductions in Landfill Methane. The 2008 AB 32 Scoping Plan identified a potential reduction of 1 MMTCO₂e from the Discrete Early Action measure but did not quantify the reduction from RW-2. Methane emissions from landfills, generated when wastes decompose, account for one percent of California's GHG emissions. GHG emissions can be substantially reduced by properly managing all materials to minimize the generation of waste, maximize the diversion from landfills, and manage materials to their highest and best use. Capturing landfill methane results in GHG benefits, as well as reductions in other air pollutants such as VOCs.

Scoping Plan Measure RW-3: High Recycling/Zero Waste. The 2008 AB 32 Scoping Plan identified a potential reduction of 10 MMTCO₂e from this measure. This measure reduces GHG emissions primarily by reducing the substantial energy use associated with the acquisition of raw materials in the manufacturing stage of a product's lifecycle. As virgin raw materials are replaced with recyclables, a large reduction in energy consumption should be realized. Implementing programs with a systems approach that focus on consumer demand, manufacturing, and movement of products will result in the reduction of GHG emissions

and other co-benefits. Reducing waste and materials at the source of generation, increased use of organic materials to produce compost to benefit soils and to produce biofuels and energy, coupled with increased recycling – especially in the commercial sector – and Extended Producer Responsibility (EPR) plus Environmentally Preferable Purchasing (EPP) also have the potential to reduce emissions, both in-state and within the connected global economy. This measure was also designed to assist in meeting the 33 percent renewables energy goal (which is applicable to the project’s impact analysis) through deployment of anaerobic digestion for production of fuels/energy.

As noted by CARB’s advisor, the Economic and Technology Advancement Advisory Committee (ETAAC), recycling in the commercial sector could be substantially increased, implemented through mandatory programs and enhanced partnerships with local governments. The provision of appropriate financial incentives will be critical. CARB will work with the California Department of Resources Recycling and Recovery (CalRecycle) to develop and implement these types of programs. CARB will also work with CalRecycle, the California Department of Food and Agriculture, the Department of Transportation, and others to provide direct incentives for the use of compost in agriculture and landscaping. Further, CalRecycle will explore the use of incentives for all recycling and waste management measures, including for commercial recycling and for local jurisdictions to encourage the collection of residentially and commercially generated food scraps for composting and in vessel anaerobic digestion.

AB 32 Scoping Plan Resolutions for Waste Management Sector

In the October 2011 Scoping Plan Resolution 11-32, CARB directed staff to work with CalRecycle and other stakeholders to characterize emission reduction opportunities for handling solid waste, including recycling, reuse, remanufacturing of recovered materials; composting and anaerobic/aerobic digestion; biomass conversion; waste thermal processes; and landfilling.

Further, in the September 2012 Cap-and-Trade Regulation Resolution 12-33, CARB directed staff to propose a comprehensive approach for the most appropriate treatment of the Waste Sector under the Cap-and-Trade program based upon the analysis of emission reduction opportunities.

AB 32 Waste Management Sector Plan

To achieve the 75 percent recycling goal of AB 341 and to inform the development of the First Update to the Scoping Plan, CARB and CalRecycle established a joint workgroup to begin developing a Waste Sector Plan. The first task of this group was to prepare a series of background technical papers to assist in understanding the issues critical to the development of a Waste Sector Plan. The five technical papers cover:

- Recycling, reuse, and remanufacturing
- Composting and anaerobic digestion
- Biomass conversion
- Municipal solid waste thermal technologies
- Landfilling of waste

Each paper provides a general description of the waste treatment process, discusses current activities, and identifies opportunities for greater GHG and waste reductions in the future. Each paper also discusses key challenges to achieving a sustainable, low-carbon waste management future and identifies potential

solutions to those challenges. In addition to the technical papers, CARB, CalRecycle, and the Department of General Services have been working together to identify opportunities for even greater State leadership in waste reduction efforts through environmentally preferred purchasing.

First Update to the AB 32 Scoping Plan

As required by AB 32, the AB 32 Scoping Plan must be updated at least every five years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. Consequently, in 2014, the Update to the initial Scoping Plan was developed by CARB in collaboration with the California CAT. The Update builds upon the initial Scoping Plan with new strategies and expanded measures and identifies opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments.

As part of the first Update to the Scoping Plan, the emissions reductions required to meet the 2020 statewide GHG emissions limit were further adjusted. The primary reason for adjusting the 2020 statewide emissions limit was based on the fact that the original Scoping Plan relied on the IPCC's 1996 Second Assessment Report (SAR) to assign the GWPs of greenhouse gases. Recently, in accordance with the UNFCCC, international climate agencies have agreed to begin using the scientifically updated GWP values in the IPCC's Fourth Assessment Report (AR4) that was released in 2007. Because CARB has begun to transition to the use of the AR4 100-year GWPs in its climate change programs, CARB recalculated the Scoping Plan's 1990 GHG emissions level with the AR4 GWPs. As the recalculation resulted in 431 MMTCO₂e, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 MMTCO₂e in the initial Scoping Plan. Considering that the update also adjusted the 2020 BAU forecast of GHG emissions to 509 MMTCO₂e, a 15 percent reduction below the estimated BAU levels was determined to be necessary to return to 1990 levels by 2020 (CARB, 2014).

The First Update to the Scoping Plan summarized the key accomplishments for the waste management sector (including AB 341) and recommended next steps. Key recommended actions for the waste sector include:

- CARB and CalRecycle will lead the development of program(s) to eliminate disposal of organic materials at landfills. Options to be evaluated will include legislation, direct regulation, and inclusion of landfills in the Cap-and-Trade Program.
- CARB and CalRecycle will identify and execute financing/funding/incentive mechanisms for in-State infrastructure development to support the Waste Management Sector goals. Mechanisms to be considered will include the Cap-and-Trade Investment Plan; loan, grant, and payment programs; low carbon fuel standard (LCFS) pathways; California Public Utility Commission (CPUC) proceedings (e.g. biogas from anaerobic digestion and Renewable Market Adjusting Tariff); and offset protocols.
- CARB will lead a process of identifying and recommending actions to address cross-California agency and federal permitting and siting challenges associated with composting and anaerobic digestion. As the first step, CARB convened a working group in 2013 made up of representatives from CalRecycle, State Water Resources Control Board (SWRCB), and local air districts to identify challenges and potential solutions.
- CARB will explore and identify opportunities for additional methane control at new and existing landfills and increase the utilization of captured methane for waste already in place as a fuel source

for stationary and mobile applications. If determined appropriate, amend the Landfill Methane Regulation and/or move landfills into the Cap-and-Trade Program (2016/17).

- CARB and CalRecycle will develop new emission reduction factors to estimate GHG emission reduction potential for various recycling and remanufacturing strategies. To the extent data are available, these factors will include upstream and downstream emissions impacts.
- CalRecycle and the Department of General Services will need to take the lead in improving the State procurement of recycled-content materials through the State Agency Buy Recycled Campaign reform.

California Supreme Court Ruling in *Center for Biological Diversity v. Department of Fish and Game*

In its recent decision, *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (Newhall Ranch), the California Supreme Court evaluated the California Department of Fish and Wildlife's (CDFW) analysis of potential impacts caused by GHG emissions contained in the EIR for the proposed land development called Newhall Ranch (California Supreme Court 2015). In the Newhall Ranch EIR, the CDFW analyzed the required GHG emission reduction under AB 32 using the BAU comparison as its sole criterion of significance.

In the Newhall Ranch case, the California Supreme Court concluded that a finding of consistency with meeting the statewide emission reduction goal described in the CARB 2008 Climate Change Scoping Plan 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 the statewide GHG reduction goal of 29 percent to new land use projects adopted by CARB pursuant to AB 32.

The Court identified "potential pathways to compliance" that lead agencies may use when evaluating cumulative significance of a proposed land use development's GHG emissions in future CEQA documents, as follows:

1. *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.
2. *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.
3. *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."

4. *Regional Sustainable Community Strategy (SCS)*: The Court also articulates that a lead agency need not additionally analyze GHG emissions from automobiles 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 SB 375.
5. *Numerical GHG Significance Thresholds*: Although noting that use of numerical thresholds are not required, the Court favorably cited to the Bay Area Air Quality Management District (BAAQMD) 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-metric-ton CO₂e annual GHG emission threshold for industrial projects. The Court remanded for further consideration the application of the 29 percent overall Scoping Plan metric, which is used by several air districts and, like the favorably-cited BAAQMD metric, is based on meeting the GHG emission reduction goal of AB 32.
6. *Executive Order Nos. S-3-05 and B-30-15*: Citing to Executive Order Nos. 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 on the Newhall Ranch case, the EIR at issue 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 percent BAU statutory GHG reduction threshold relied upon by the Newhall Ranch EIR. The AEA also does not include an assessment of the Newhall Ranch project’s consistency with any of the Court’s suggested GHG CEQA compliance pathways, although referenced documentation in the EIR’s administrative record do include and confirm compliance with each pathway. Instead, as described in the AEA, the Newhall Ranch project applicant (Five Point LLC) voluntarily modified its project and proposed to achieve “net zero” GHG emissions for the project with the implementation of 13 mitigation measures 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 Ranch 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, pages 1-18).

Landfill Methane Control Measure

In 2010, CARB approved a Discrete Early Action Measure to reduce methane from municipal solid waste (MSW) landfills. The regulation primarily requires owners and operators of certain uncontrolled MSW landfills to install gas collection and control systems and requires existing and newly installed gas and control systems to operate in an optimal manner. The regulation allows local air districts to voluntarily enter into a memorandum of understanding with CARB to implement and enforce the regulation and to assess fees to cover costs.

AB 341

In 2012, AB 341 (Chapter 476, Statutes of 2011 [Chesbro AB 341]) directed CalRecycle to propose a plan for the next step in the evolution of California's solid waste stream management. AB 341 establishes a policy goal for California that not less than 75 percent of the solid waste generated be source-reduced, recycled or composted by 2020. AB 341 also required CalRecycle to provide a Report to the Legislature detailing strategies to achieve that policy goal.

In 2015, the Report to the Legislature puts forth five strategies and three additional focus areas that can be pursued to reach the 75 percent recycling goal, which are not intended as an implementation plan, but rather a catalog of options for moving forward. Detailed recommendations include a mix of statutory and regulatory changes, infrastructure expansion, fiscal policies and incentives, as well as monitoring and enforcement. Additionally, moving more organics into the resource stream supports the state's broader environmental goals, in particular those contained in Executive Order B-30-15 and addresses five of the Governor's climate change strategies:

- Moving organics out of the landfill;
- Expanding the recycling/manufacturing infrastructure: permitting/compliance assistance and financing;
- Exploring new models for state and local funding of materials management programs;
- Promoting state procurement of postconsumer recycled content products;
- Promoting Extended Producer Responsibility (EPR)

Three additional focus areas include:

- Source reduction;
- Commercial recycling;
- Other products (packaging, waste tires, e-waste and used oil).

Mandatory Commercial Recycling Regulation

The Mandatory Commercial Recycling Regulation, which was adopted by CalRecycle in 2012, is a regulation to clarify the responsibilities in implementing mandatory commercial recycling as required by AB 341 and AB 1018 (an amendment clarifying the thresholds for business subject to mandatory recycling). This regulation requires businesses that generate four or more cubic yards of commercial solid waste per week and multifamily residential dwellings with five or more units, regardless of the amount of waste generated, to arrange for recycling services. The regulation also contains requirements for jurisdictions to implement education, outreach, and monitoring of recycling activities.

Cap-and-Trade Program (17 CCR 95800 to 96022)

On October 20, 2011, CARB approved the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program) as part of the AB 32 implementation measures.

Cap-and-trade is a market-based regulation that is designed to reduce GHGs from multiple sources. It is viewed as an environmentally effective and economically efficient response to climate change. Cap-and-trade sets a firm limit, or cap on GHG emissions from all sources in the Cap-and-Trade Program and minimizes the compliance costs of achieving AB 32 goals. The initial cap was established in 2013 for the electrical sector and any large industrial source emitting more than 25,000 MTCO₂e per year. Beginning in 2015, the cap was expanded to include GHG emissions from the combustion of transportation fuels and natural gas. The cap declines approximately 3 percent each year. In the market, a price on carbon is established for GHGs. Trading and market forces create incentives to reduce GHGs below allowable levels through investments in technological innovation in clean technologies. California has linked its Cap-and-Trade Program with a similar program adopted by Quebec in order to help deliver cost-effective emission reductions.

SB 605 - Short-Lived Climate Pollutants

Short-lived climate pollutants (i.e., black carbon, fluorinated gases, and methane) are powerful climate forcers that remain in the atmosphere for a much shorter period of time than longer-lived climate pollutants. Their relative potency, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO₂. The impacts of short-lived climate pollutants are especially strong over the short term. Reducing these emissions can make an immediate beneficial impact on climate change (CARB, 2016). In 2014, SB 605 directed CARB to develop a Short-Lived Climate Pollutant Strategy by January 1, 2016. In November 2016, CARB released the Short-Lived Climate Pollutant Strategy (CARB, 2016).

SB 1383 - Short-Lived Climate Pollutants: Organic Waste Methane Emissions Reductions

In September 2016, Governor Brown signed SB 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The bill codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605 (Lara, Chapter 523, Statutes of 2014), in order to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to the California Department of Resources Recycling and Recovery, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Other Mobile Source Reduction Requirements

Several other State provisions address the GHG emissions reduction targets set by CARB for mobile sources, including trucks, passenger vehicles, trains, and ships. These measures include:

- Low Carbon Fuel Standard (EO S-01-07)

- Advanced Clean Cars Program
- SmartWay Truck Efficiency Regulation
- AB 32 Cap-and-Trade Program as applicable to transportation fuel suppliers
- SB 375 (Land Use Planning) including the development of a Sustainable Communities Strategy (SCS) as part of a Metropolitan Planning Organization (MPO)'s Regional Transportation Plan.

In particular, SB 375 requires CARB to set regional targets for GHG emission reductions from passenger vehicles and light duty trucks and requires each regional MPOs to adopt a SCS into its regional transportation plan that would allow the region to meet its GHG emission reduction target. While SB 375 does not require local governments to amend their General Plans to implement the SCS, it provides incentives for them to do so.

Scoping Plan Update for 2030

In 2017, CARB published *The 2017 Climate Change Scoping Plan Update*, which proposes a strategy for achieving California's 2030 GHG target (i.e., 40 percent reduction in GHGs by 2030 compared to 1990 levels). The strategy outlined in this document builds on the programs established under AB 32, but also covers plans to achieve the 2030 target established by SB 32. The key programs that the Scoping Plan Update for 2030 builds on include the Cap-and-Trade Regulation; Low Carbon Fuel Standard; much cleaner cars, trucks and freight movement; powering California off of cleaner renewable energy; and strategies to reduce methane emissions from agricultural and other wastes by using it to meet California's energy needs. It also comprehensively addresses for the first time the GHG emissions from natural and working lands of California – including the agriculture and forestry sectors.

Local

San Joaquin Valley Air Pollution Control District

In 2008, SJVAPCD adopted its Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD to develop guidance to assist CEQA lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project GHG emissions on global climate change (SJVAPCD, 2008). In 2009, the SJVAPCD Board approved two guidance documents:

- *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* ("Land Use GHG Guidance") (SJVAPCD, 2009b); and
- *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD, 2009a).

These policies provide that "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 a project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions" (SJVAPCD, 2009b). Under the guidance, projects implementing Best Performance Standards would have less than significant impacts for GHG emissions, as would projects that reduce or mitigate their GHG emissions by at least 29 percent as compared to BAU.

In 2014, SJVAPCD issued a guidance document titled “CEQA Determinations of Significance for Projects Subject to CARB’s GHG Cap-and-Trade Regulation” (Policy APR-2025; “CEQA Cap-and-Trade Policy”) (SJVAPCD, 2014). This policy is to be followed when SJVAPCD is “providing technical guidance to lead agencies and the public regarding significance of project specific GHG emissions.” The policy states SJVAPCD’s conclusion that “GHG emission increases subject to CARB’s Cap-and-Trade Regulation would have a less than significant individual and cumulative impact on global climate change.” Noting that GHG emissions from combustion of transportation fuels are covered under the Cap-and-Trade Program beginning in 2015, the policy also states that “GHG emission increases caused by fuel use (other than jet fuels) are determined to have a less than significant impact on global climate change under CEQA.”

Under SJVAPCD’s 2014 policy for stationary source impacts, “the District’s (SJVAPCD’s) determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change” (SJVAPCD, 2014). This policy employs a tiered approach to determining the CEQA significance of a project’s GHG emissions. The first level is compliance with an approved GHG emission reduction plan that is specified in law and supported by a CEQA-compliant environmental review document. SJVAPCD has determined that GHG emissions covered under the Cap-and-Trade Program cannot constitute significant increases under CEQA, for two reasons. First, the Cap-and-Trade Program is an approved GHG mitigation plan that meets the requirements set forth in the District’s policy on stationary source GHG emission impacts (SJVAPCD, 2014, pages 4-5). Second, any increase in GHG emissions from affected sectors must be accounted for under the statewide GHG emissions cap in the Cap-and-Trade Program, and that cap decreases over time. As a result, the Cap-and-Trade Program will fully mitigate any project emission increases for emissions included under the cap (SJVAPCD, 2014b).

Where an approved GHG emission reduction program is not in place, or a project will not comply with it, the guidance documents next rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS), as a basis for assessing the significance of a project’s GHG emissions on global climate change under CEQA. BPS consist of established specifications or project design elements that are used as a method of determining significance of project-specific GHG emission impacts. BPS are defined as the most effective achieved-in-practice means of reducing or limiting GHG emissions from a GHG emissions source. BPS for stationary source projects include equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class or category (SJVAPCD, 2009a).

SJVAPCD recommends use of BPS for assessing climate change impacts to streamline the process of determining significance under CEQA. BPS are not intended as a required emission reduction measure. Under SJVAPCD guidance, projects implementing BPS would be determined to have a less than cumulatively significant impact on global climate change.

Projects that do not comply with an approved GHG emission reduction plan or use BPS must demonstrate a 29 percent reduction in GHG emissions from BAU in order to be determined to have a less than cumulatively significant impact on global climate change. BAU is determined by multiplying 2002-2004 emission factors by the activity expected to occur in 2020. The guidance does not limit a lead agency’s authority to establish its own process and guidance for determining significance of project-related impacts on global climate change (SJVAPCD, 2009b).

While no appellate court decision has yet addressed reliance on statewide GHG Cap-and-Trade Program compliance as a method of determining the significance of project GHG emissions for CEQA purposes, several cases have addressed the so-called BAU methodology, which is similarly based on AB 32 compliance. Under the BAU approach, GHG emissions from a project are considered to have an insignificant impact if they are more than 29 percent below modeled emissions under a BAU scenario, where 29 percent is roughly the magnitude of the statewide GHG reduction anticipated to be achieved in compliance with AB 32 by 2020.

Reliance on the BAU-based significance threshold was specifically upheld as a proper exercise of agency discretion in *Citizens for Responsible Equitable Environmental Development (CREED) v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 336-37. Two subsequent cases concurred with the approach in CREED. *Friends of Oroville v. City of Oroville* (2013) 219 Cal. App. 4th 832, 841-42; *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2014) 224 Cal. App. 4th 1105. Though *Friends of Oroville* criticized the lead agency's application of the BAU-based threshold in that particular case, the court found the methodology to be appropriate in itself. See *Friends of Oroville*, 219 Cal. App. 4th at 841: "The problem is the City improperly applied this proper standard in concluding that the project's environmental impacts from GHG emissions are less than significant. [CREED] exemplifies the model, showing us a proper way to apply the AB 32 threshold-of significance standard." The Center for Biological Diversity case is currently pending appeal before the California Supreme Court.

By analogy to the BAU cases, a project's compliance with the Cap-and-Trade Regulation is also an appropriate means of determining the significance of the project's GHG emissions because in either case, the 29 percent reduction in emissions anticipated by AB 32 will occur. As CARB set the statewide annual GHG allowance cap at levels low enough to assure that the overall AB 32 statewide emission reduction goal would be achieved, compliance with the Cap-and-Trade Regulation assures that a project will not cause a GHG emission increase that would cause the State to miss its GHG emission reduction goals.

Kern County

The policies, goals, and implementation measures in the Kern County General Plan applicable to GHG as related to the project are provided in Section 4.3, *Air Quality*, of this SEIR. The Land Use, Open Space, and Conservation Element of the Kern County General Plan contains the following policies, goals, and implementation measures that would indirectly impact GHG emissions through the reduction of fossil fuel use. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below.

Kern County General Plan

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

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.

Implementation Measures

- Measure F:** All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G:** Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
- a. Minimizing idling time.
 - b. Electrical overnight plug-ins.
- Measure H:** Discretionary projects may use one or more of the following to reduce air quality effects:
- a. Pave dirt roads within the development.
 - b. Pave outside storage areas.
 - c. Provide additional low Volatile Organic Compounds 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.

Energy, Efficiency, and Conservation Projects

In 2009, the Kern County Board of Supervisors approved the proposed list of Energy, Efficiency, and Conservation projects for which the County will request funding under the provisions of the American Recovery and Reinvestment Act of 2009 (HR 1). The Kern County Planning and Natural Resources Department has requested an allocation for the preparation of a Climate Change Action Plan (CCAP) for the County General Plan. California's Climate Scoping Plan calls for local governments to reduce GHG

emissions through the adoption of local programs as an important strategy to reduce community scale GHG emissions. A project's conformance with an adopted CCAP would ensure the goal of AB 32 can be attained.

Kern Sustainable Communities Strategy

The Sustainable Community Strategy (SCS) is a part of the 2014 Regional Transportation Plan (RTP) developed by the Kern Council of Governments (COG). The SCS (Kern COG 2014) strives to reduce air emissions from passenger vehicle and light-duty truck travel by better coordinating transportation expenditures with forecasted development patterns and, if feasible, help meet CARB GHG targets for the region (Kern COG, 2014). The SCS does not regulate the use of land nor does it supersede the land use authority of the cities or county within the region.

California Air Pollution Control Officers Association (CAPCOA)

In 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" (an authoritative report issued by any organization) *CEQA and Climate Change* on evaluating GHG emissions under CEQA (CAPCOA, 2008). The strategies provided in that document are guidelines only and have not been adopted by any regulatory agency. The CAPCOA White Paper serves as a resource to assist lead agencies in evaluating GHGs during review of environmental information documents, and is not intended and should not be interpreted, to dictate the manner in which an air district or Lead Agency chooses to address GHG emissions in the context of its review of projects under CEQA. This paper was prepared at a time when California law has been recently amended by the Global Warming Solutions Act of 2006 (AB 32) and the full programmatic implications of AB 32 were not yet fully understood.

The CAPCOA document provides the following: "This threshold approach would require a project to meet a percent reduction target based on the average reductions needed from business-as-usual emission from all GHG sources. Using the 2020 target, this approach would require all discretionary projects to achieve a 33 percent reduction from the projected business-as-usual emission from all GHG sources in order to be considered less than significant" (CAPCOA, 2008). Since the publication of the CAPCOA White Paper in 2008, the AB 32 Scoping Plan has, in its final update in 2014, refined that percentage to 15 percent (CARB, 2014c).

If the project is built after 2020, it would be required to comply with any and all building codes and Kern County General Plan requirements to address the 2050 goal. The County has not required development to conform to a goal established for 2050 due to the technology changes and lifestyle changes that will occur in California over the next 40 years. There is no nexus for such a standard and it is considered speculative under CEQA for a project-level EIR.

4.4.4 Impacts and Mitigation Measures

Methodology

The project's GHG construction and operational emissions were estimated from emissions models and associated spreadsheet calculations, depending on the source type and data availability. The emissions estimates cover construction and operation, including mobile and stationary sources. The methods used to estimate these emissions are described below. The analysis is consistent with the California Emission Estimator Model version 2016.3.2 (CalEEMod®), a model developed by the California Air Pollution

Control Officers Association (CAPCOA) for use in developing emission inventories suitable for CEQA analyses. The analysis relies heavily on the CalEEMod® methodology described in the CalEEMod® User's Guide and the tables of default data in the CalEEMod® User's Guide. Refer to the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill Technical Report* in, Appendix D of this SEIR, for details on equipment fleet, hours of operation, vehicle miles traveled, and other assumptions used, and other assumptions used. All modeling assumptions, results, and data inputs are presented in the air quality impact assessment, referenced above. For project construction and operations GHG emissions calculation methodology, refer to Section 4.3.4, Impacts and Mitigation Measures, Methodology of Section 4.3, *Air Quality*, of this SEIR. For project GHG emissions, construction GHG emissions are calculated for each of the project's phases. The project's annual operational GHG emissions are calculated to determine the project's total annual GHG emissions.

With respect to estimating the indirect GHG emissions from onsite water consumption at the project site, it should be noted that the use of water in California can involve substantial energy consumption depending on the source of the water, the use location relative to the source, and depth of aquifers. Most of the energy associated with water supply is provided by electricity, which is generated from a variety of sources including fossil-fueled power plants that produce greenhouse gases. Consequentially, the use of water for dust control during project construction and landfilling and composting operations indirectly results in additional GHG emissions. As discussed in the *Energy Conservation Study for Composting and Waste Diversion Project, Shafter-Wasco Recycling & Sanitary Landfill* prepared by SCS Engineers (SCS), presented in Appendix F of this SEIR, the project site is set to acquire water from local groundwater sources. Water usage and related GHG emissions are presented in the impact analysis below.

The analysis in the impact analysis is based on information presented in the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020* prepared by SCS Engineers for the project proponent, Appendix E of this SEIR. The inventory provides a system-wide analysis of GHG emissions related to landfills, utilities, haul vehicles, recycling operations, and carbon sequestration to demonstrate compliance with local, state, and federal GHG guidelines, goals, and mandates. When calculating emissions from these sources, SCS Engineers used the Solid Waste Industry for Climate Solutions (SWICS) protocols methodology when calculating GHG emissions from landfills (SWICS, 2009). SWICS methodology values are based on the cover type at the landfill, the results of surface emissions monitoring (SEM), and the effectiveness of the gas collection and control systems. GHG emissions resulting from other solid waste diversion, equipment usage, and utilities (natural gas and electricity) were tabulated and included in the inventory. The GHG emissions from non-haul vehicles and from off-road equipment were calculated using the Climate Registry (TCR) "General Reporting Protocol" (May 2019) methodology and the TCR Default Emission Factors (April 2020). TCR methodologies and emission factors were used to calculate the GHG emissions from these vehicles and equipment. CO₂, CH₄, and N₂O emissions are calculated from total fuel usage. The GHG reductions from diversion was calculated using the United States EPA Waste Reduction Model (WARM) showing GHG reductions due to recycling, source reduction, and composting programs. The indirect emissions from electricity use include emissions of CO₂, CH₄, and N₂O resulting from the generation of the electricity and use emission factors for California (CAMX region) from the USEPA's eGrid database. GHG contributions are converted into CO₂ equivalents (CO₂e).

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on greenhouse gas emissions. The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect on GHGs. A project would have a significant impact on GHGs if it would:

- a. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California. Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB AB 32 Scoping Plan is presumed to have less-than-significant GHG impacts.

As indicated above, 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. A project can demonstrate compliance with an approved GHG emissions reduction program (such as the Cap-and-Trade Program), demonstrate implementation of BPS to reduce GHG emissions, or demonstrate achievement of a 29 percent reduction in GHG emissions from BAU.

Additionally, impacts were evaluated based on whether the project would be consistent with the state's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32.

Project Impacts

Impact 4.4-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

For purposes of Impact 4.4-1, this analysis evaluates project compliance with regulatory programs designed to reduce GHG emissions and that contribute to the achievement of AB 32's goals as the primary significance criterion.

The project would directly and indirectly generate GHG emissions during construction and ongoing operational activities. Three GHGs associated with the project – CO₂, CH₄, and N₂O – would be emitted from on-road vehicles and off-road equipment during construction, from off-road equipment and vehicles used during routine operational activities, and from the use of water during construction and operation. The estimated GHG emissions from construction activities and operational activities associated with the project

are shown and summarized in tables below and can also be referenced to in the *Air Quality Impact Assessment, Shafter-Wasco Recycling and Sanitary Landfill*, Appendix D, of this SEIR, and in the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020*, Appendix E, of this SEIR.

Greenhouse Gas Inventory

Executive Order (EO) S-3-05 established a GHG reduction level to 80 percent of 1990 levels by the year 2050 within the State of California. In 2006, California passed AB 32, which requires CARB to conduct GHG inventories and implement a series of programs to reduce GHG emissions in the state, which would result in GHG emissions below 1990 levels by 2020. Executive Order B-30-15 and SB 32 extended the goals of AB 32 and set a 2030 goal of reducing emissions 40 percent from 2020 levels.

To demonstrate compliance with AB 32 and EO S-3-05, the project proponent prepared the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020*, Appendix E, of this SEIR. The inventory calculated direct and indirect GHG emissions related to landfill gas, waste placement, electricity, propane, non-haul vehicles, off-road equipment, and waste diversion. The inventory provides a system-wide summary, meaning landfills and waste facilities managed and owned by the project proponent, of GHG emissions from the project proponent's waste management system with reductions from existing gas collection and control systems, biogenic emissions, diversion reductions, and carbon sequestration. The overall system-wide emissions increase with time, but the ratio of CO₂ to methane also increases with time, indicating a greater percentage of methane is being collected and destroyed. Regarding the proposed project site, the report includes specific inventory information and emissions related to the Shafter-Wasco Recycling & Sanitary Landfill (RSLF). Relevant information is presented below.

In 1990, landfill gas derived emissions from the Shafter-Wasco RSLF equated to 1,539 MT CO₂e of methane emissions (Table 6 of the inventory). With the installation of gas collection and control systems at the project site, 2018 emissions equate to 439 MT CO₂e of methane emissions (Table 7 of the inventory) and 2020 emissions equate to 471 MTCO₂e of methane emissions (Table 8 of the inventory). Indirect emissions from electricity used at the project site equates to 6.6 MTCO₂e (Table 10 of the inventory). Direct emissions from propane use is calculates to 30.10 MTCO₂e (Table 12 of the inventory).

At a system-wide level in 2018, detailed GHG emissions from non-haul vehicles, gasoline and diesel light and medium duty vehicles for maintenance, site visits, and other duties, results in 439 MTCO₂e. Haul vehicles, various gasoline and diesel medium and heavy-duty refuse hauling vehicles used as part of its operations, emissions result in 230 MTCO₂e. Off-road equipment, used for solid waste management operations, results in 2,818 246 MTCO₂e. Since the project site is considered a portion of the overall system-wide inventory as presented, existing project site emissions are included in the total emissions values. As such, **Table 4.4-5, GHG Emissions in MTCO₂e (2020)**, below, represents the emission sources specific to the project site.

Carbon storage or sequestration is the long-term removal, capture, or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO₂ pollution and to mitigate or reverse global warming. The storage of carbon in landfills is one of the GHG emission offsets and sinks modeled by EPA's Waste Reduction Model (WARM), as described in the *Methodology* section above. Carbon storage or sequestration continues to increase in the landfill from 1990 to 2020. Carbon sequestration in landfills is approximately ten times the methane emissions for each year, indicating that significantly more carbon is

stored in landfills than GHG is emitted each year. Sequestration is determined based on the volume of waste placement. As illustrated in Table 9 of the inventory report, in 1990, 2018, and 2020, 79,135 tons, 177,570 tons, and 213,144 tons were placed within the Shafter-Wasco RSLF, respectively. As such, waste tons have been converted to MTCO₂e and presented in **Table 4.4-4, Carbon Sequestration**. A consistent and steady increase in GHG reductions related to carbon storage occurs year by year at the project site.

TABLE 4.4-4: CARBON SEQUESTRATION		
YEAR	SYSTEM-WIDE STORAGE (MTCO₂E)	SHAFTER-WASCO STORAGE (MTCO₂E)
1990	-345,348	-26,178
2018	-319,639	-68,059
2020	-359,755	-81,694

Waste diversion, being one of the chief objectives of the proposed project through the operation of a composting facility and implementation enhanced self-haul recycling operations, directly contributes to further GHG reductions. GHG reductions from diversion was calculated using WARM showing GHG reductions due to recycling, source reduction, and composting programs for 1990, 2018, and projected reductions for 2020. The WARM model assumed that all diverted waste would have otherwise been placed in a landfill. The modeling included the fact that no methane was destroyed at landfills in 1990 and assumes that landfill gas collection is aggressive as defined in the model in 2020. The reductions shown are system wide and capture all material diversion even though some is attributable to local jurisdiction programs (i.e. incorporated cities and other reporting agencies). Waste categorization and composition in 1990 was different than waste categorization in 2018, which results in a significant difference in the calculated reduction from some specific categories. As such, while diversion increased from 1990 to 2018, GHG reductions from increased diversion did not increase by a proportional amount because some of largest increases in diversion are in relatively low-impact materials such as concrete and mixed organics. Improved landfill gas capture and control systems also reduces the benefit of diversion of organic content in 2018. GHG reductions from waste diversion are presented in Tables 18, 22, 23, 24 of the inventory. In summary, total GHG reduction from diversion are presented in **Table 4.4-5, GHG Reduction from Diversion**.

TABLE 4.4-5: GHG REDUCTION FROM DIVERSION		
YEAR	SYSTEM-WIDE GHG REDUCTION (MTCO₂E)	SHAFTER-WASCO GHG REDUCTION (MTCO₂E)
1990	-431,8960	-32,736
2018	-735,093	-156,521
2020	-827,351	-196,452

For the project site, GHG emissions associated with the Shafter-Wasco RSLF are presented in **Table 4.4-6, Shafter-Wasco GHG Emissions in MTCO₂e (2020)**, showing the source or activity and related emissions. Carbon storage in the landfill is shown for informational purposes and is not included in total. A system-wide look at GHG emissions, site-by site emissions sources, and sequestration of carbon are shown in Tables 22, 23, 24, and 25 of the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020*, Appendix E, of this SEIR.

TABLE 4.4-6: SHAFTER-WASCO GHG EMISSIONS IN MTCO₂E (2020)	
SOURCE/ACTIVITY	MTCO₂E
Fugitive Methane Emitted from Surface	417
Methane Emitted from Combustion Device	55
Utilities	7.03
Light Duty Vehicles	89
Haul Vehicles	62
Equipment	753
Diversion	-196,452
Total	-195,070
Carbon Storage	-81,694

In summation, the *Kern County Public Works Department Greenhouse Gas Inventory for 1990, 2018, and 2020*, Appendix E, of this SEIR, demonstrates that GHG reductions from the project proponent's existing inventories result in an overall net reduction of greenhouse gases in the atmosphere due to carbon sequestration in the landfill and avoided GHG emissions from waste diversion, even prior to the proposed project implementation. Therefore, a project found to contribute to a net decrease in GHG emissions, as demonstrated in full detail above, and found to be consistent with the adopted implementation of the AB 32 Scoping Plan is presumed to have less than significant GHG impacts. Information regarding consistency with the AB 32 Scoping Plan provided below.

Construction Emissions

GHG emissions would be generated during construction activities associated with the project. Off-road equipment that would be used during construction includes dozers, tractors, backhoes, excavators, graders, scrapers, and loaders. Miscellaneous smaller equipment such as concrete saws, generators, and industrial saws are included. On-road mobile sources that could be used during construction include employee commute vehicles. Indirect GHG emissions would be generated related to 16.91 acre-feet of water use primarily to control dust during the construction period.

A complete breakdown of construction GHG emissions tabulated by equipment and emission type is presented in the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill*, specifically **Table 4.3-1** and **Table 4.3-2**, in Section 4.3, *Air Quality*, of this SEIR. The tables, in fact, are too large to include in this section of the SEIR and, thus, are made available in Appendix D, of this SEIR. To summarize information presented, the project's total GHG emissions resulting from construction activities of the project is projected to be approximately 294.96 MTCO₂e (293 MTCO₂e of combustion exhaust associated with off-road equipment and 1.96 MTCO₂e of water usage associated with electricity consumption). GHG emissions due to construction activities are a temporary and one-time impact and are less than significant.

Operational Emissions

GHG emissions from the operation of the project include direct emissions from off-road equipment (i.e. loader, grinder, tarping machine, compactor, dozer, water truck, etc.) and composting equipment. Indirect GHG emissions, associated with electricity usage, would be generated related to water use for composting operations and water use during the landfill operations.

A complete breakdown of operational GHG emissions tabulated by equipment and emission type is presented in the *Air Quality Impact Assessment Shafter-Wasco Recycling and Sanitary Landfill*, specifically Appendix D, **Tables 4-2, 4.2-3, and 4.2-5**, of this SEIR. The tables, in fact, are too large to include in this section of the SEIR and, thus, are made available in Appendix D. To summarize, the project's annual GHG emissions resulting from operations activities are presented in **Table 4.4-7, Estimated Annual Project Greenhouse Gas Emissions**, below. Emissions of the project is projected to be approximately 908 MT CO₂e annually.

TABLE 4.4-7: ESTIMATED ANNUAL PROJECT GREENHOUSE GAS EMISSIONS	
SOURCE/ACTIVITY	MTCO₂E
Compost Equipment (Combustion)	483.70
Landfill Equipment (Combustion)	398.14
Composting & Landfill Water Usage (Electricity)	1.36
Compost Equipment (Electricity)	24.56
Total	907.76

Compliance with Best Performance Standards

Since the proposed project includes the expansion of landfill operations, but does not propose an increase in maximum tonnage, traffic volumes, refuse footprint, or landfill design capacity beyond what is currently permitted, the project would be subject to SJVAPCD Best Performance Standards (BPS). The SJVAPCD guidance states that projects that comply with district approved BPS are not significant for GHG emissions. For landfills, the predominant source of GHG emissions is fugitive landfill gas emissions (methane). The BPS for landfills may be compliance with CARB's Landfill Methane Rule, which the project site is subject to. The project site currently has a gas collection and control system in place, and hence the existing project site complies and will continue to comply with the requirements of the SJVAPCD related to controlling landfill gas emissions. As such, the facility meets BPS through the Landfill Methane Rule and the GHG emissions are not significant per SJVAPCD guidance.

The project would implement GHG reduction regulations and policies as described to reduce net GHG emissions from landfills by expanding composting operations and demonstrating compliance with SJVAPCD rules to reduce VOC emissions. The GHG emission reductions achieved by the project's diversion of organic materials from landfills result in an overall reduction in GHG emissions as a result of the project. This will ensure that these emissions will be consistent with California's AB 32 program for reducing GHG emissions.

Consistency with Recommended Actions of Climate Change Scoping Plan

E-3 (Electricity and Natural Gas, Renewables Portfolio Standard, Achieve a 33 Percent Renewables Mix by 2020) – Electric utilities supplying power to the project’s activities are subject to the GHG reduction regulation. The project is located within the Pacific Gas & Electric (PG&E) service territory. It is expected that electricity providers will comply with the mandated 33 percent renewables standard. As shown in Section 4.16, *Energy*, of this SEIR, PG&E reports that 38.9% of its electricity comes from eligible renewable sources that are free of GHG emissions. Eligible renewable sources include biomass, geothermal, small hydroelectric, solar, and wind. The project would comply with the recommended action of the scoping plan.

RW-1 (Landfill Methane Control) – Methane emissions from landfills, generated when wastes decompose, account for a percentage of California’s GHG emissions. GHG emissions can be substantially reduced by properly managing all materials to minimize the generation of waste, maximize the diversion from landfills, and manage them to their highest and best use. Capturing landfill methane results in greenhouse gas benefits, as well as reductions in other air pollutants such as volatile organic compounds. The project would comply with the recommended action of the scoping plan.

RW-3 (High Recycling/Zero Waste) – This measure reduces GHG emissions primarily by reducing the energy use associated with the acquisition of raw materials in the manufacturing stage of a product’s lifecycle. As virgin raw materials are replaced with recyclables, a large reduction in energy consumption should be realized. Reducing waste and materials at the source of generation, increased use of organic materials to produce compost to benefit soils coupled with increased recycling have the potential to reduce emissions, both in-state and within the connected global economy. State and local agencies continue to explore measures, including for commercial recycling and for local jurisdictions to encourage the collection of residentially and commercially generated food scraps for composting. The project would comply with the recommended action of the scoping plan.

CR-1 (Energy Efficiency) – Energy efficiency measures for both electricity and natural gas can reduce greenhouse gas emissions significantly. This measure seeks to maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Strategies include more stringent building codes and appliance efficiency standards and improved compliance and enforcement of existing standards. The project would comply with the recommended action of the scoping plan.

GB-1 (Green Buildings) – A Green Building strategy will produce greenhouse gas saving through buildings that exceed minimum energy efficiency standards and reduce solid waste during construction and operation. The project would comply with the recommended action of the scoping plan.

T-2 (Low Carbon Fuel Standard) – Since its adoption in 2010, the LCFS has faced legal and regulatory challenges. To the extent that the LCFS becomes fully effective and low-carbon fuels come to the California marketplace, locomotive, truck, and other vehicle operators, such as serving the project site, are expected to purchase such fuels.

T-4 (Vehicle Efficiency Measures) – Vehicle efficiency measures include low friction oil, tire pressure regulation, tire tread program, and solar reflective automotive paint/window glazing. The tire pressure regulation has been approved and the tire tread program is under evaluation by CARB. CARB reports that the low friction oil component already has been achieved in practice. Potential reductions through design

are to be considered as part of CARB's Advanced Clean Cars measure. Truck and other motor vehicle operators, such as serving the project site, are expected to comply with such measures as technology required by the program comes to the California marketplace. The project would comply with the recommended action of the scoping plan.

Therefore, a project found to contribute to a net decrease in GHG emissions, as demonstrated in full detail above, and found to be consistent with the adopted implementation of the AB 32 Scoping Plan, as presented, is presumed to have less than significant GHG impacts.

Consistency with Executive Orders

As described above, EO S-3-05 establishes a goal that statewide GHG emissions be reduced to 80 percent below 1990 levels by 2050. EO B-30-15 sets forth an interim goal for reduction in GHG emissions to 40 percent below 1990 levels by 2030. This analysis considers the project's consistency with the GHG emission reduction goals set forth in both EOs. The County, as Lead Agency, has not established the statewide goals set forth in the EOs as thresholds of significance under CEQA. Rather, AB 32, which requires a reduction of statewide GHG emissions to 1990 levels by 2020, and which also imposes the legal obligation to continue existing policies and maintain emission reductions beyond 2020, is the current law in California.

Further, the 2030 target of 40 percent below 1990 emissions and the 2050 target of an 80 percent reduction are general statewide goals. While AB 32 has a similar statewide goal, AB 32 has been implemented on a detailed, sector-by-sector basis, with different sectors being responsible for different levels of reductions. It is impossible for the County to predict what percentage of reduction would be required of the waste management industry to help achieve the statewide 2030 and 2050 targets. Assigning an across-the-board 40 or 80 percent reduction from 1990 levels to the waste management industry in Kern County is not consistent with the manner in which GHG reductions have been and are being achieved under AB 32.

As demonstrated through the system-wide and project site inventory, even with project specific emissions, GHG emissions are expected to decrease over time as additional organic wastes and various materials are diverted from landfilling (which would end up resulting in significant methane contribution) to the composting process. In addition, GHG emissions reductions occur as incoming material is disposed of in landfills and results directly in additional carbon sequestration.

Summary

Based on the aforementioned information and analysis, the project would comply with all applicable regulatory programs and other applicable adopted standards to reduce GHG emissions. The project is designed to be consistent with GHG reduction regulations. Moreover, with the incorporation of diversion requirements and carbon storage, the project would cause an overall reduction in GHG emissions. Given that the project would result in a net decrease of CO₂e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.4-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The proposed operation of the existing composting facility and expanded landfill operations would be subject to new State mandates to reduce GHG emissions, including methane from solid waste management activities, reducing the volume and type of wastes disposed of in landfills, and increasing the volume of wastes that are composted. 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.

As discussed previously, numerous initiatives by the State of California will reduce statewide GHG emissions and certain emissions associated with the project, including the Pavley rules (AB 1493) that would reduce emissions from automobiles, regulations that would reduce emissions from heavy duty trucks, the RPS (Executive Order S-14-08) that would reduce emissions from electricity, and the LCFS that would reduce emissions from heavy duty trucks and off-road mobile equipment. The State of California continues to pass legislation, such as SB 1383, directing more diversion from landfills, which results in a higher demand for resource recovery, recycling, and composting.

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025 in order to achieve reductions in the statewide emissions of short-lived climate pollutants. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. SB 1383 requires the development, adoption, and implementation of a Short-Lived Climate Pollutant Strategy and includes the following specific goals for 2030 from 2013 levels: 40 percent reduction in methane; 40 percent reduction in hydrofluorocarbon gases; 50 percent reduction in anthropogenic black carbon. In March 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy establishing a path to decrease GHG emissions and displace fossil-based natural gas use. Strategies include avoiding landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes. The project would comply with these adopted regulations for the purposes of reducing GHG emissions.

Recent legislation includes AB 341, which is designed to help meet California's recycling goal of 75 percent by 2020; AB 1594, which eliminates the use of greenwaste as alternative daily cover at a landfill to be considered diversion; AB 1018, an amendment clarifying the thresholds for business subject to mandatory commercial recycling regulations; and AB 1826, which requires commercial businesses in 2016 to separate their food and yard wastes for composting and anaerobic digestion, which will result in a greater demand for composting of food and green organic materials. Reducing emissions from waste landfills is an important component of the state's GHG reduction and climate programs. The possible tonnage of food waste is unknown at this time but is anticipated to gradually increase as communities begin to implement food waste collection programs. However, organic materials will continued to be targeted as an element of the proposed project. The project would comply with these adopted regulations for the purposes of reducing GHG emissions.

AB 32 creates a comprehensive, multi-year program to reduce California's GHG emissions to 1990 levels by the year 2020. AB 32 requires that CARB develop GHG reduction strategies that do not interfere with existing air pollution control measures. The AB 32 Scoping Plan contains the main strategies California will use to reduce the GHGs that cause climate change. The Scoping Plan includes several measures for reducing GHG emissions from the recycling and waste industry, including reducing methane emissions at landfills and moving towards zero waste.

As detailed in California's 2017 Climate Change Scoping Plan, emissions from recycling and waste have grown by 19 percent since 2000. The majority of those emissions are attributed to landfills, despite the majority of landfills having gas collection systems in place. Landfill emissions account for 94 percent of the emissions in this sector, while compost production facilities make up a small fraction of emissions. The proposed project assists the State in meeting certain high-level objectives and goals to reduce GHGs in this sector, such as composting, anaerobic digestion, and wastewater treatment plant capacity to help process organic waste diverted from landfills; and compost for carbon sequestration, erosion control in fire-ravaged lands, water conservation, and healthy soils.

Additionally, in efforts to reduce GHGs, the measures below include some required and new potential measures to help achieve the State's 2030 target and to support the high-level objectives for this sector. Some measures may be designed to directly address GHG reductions, while others may result in GHG reductions as a co-benefit. In addition, to move forward with the goals of the waste management sector and achieve the 2030 target, certain actions are recommended to help set the groundwork. These actions include the ongoing and continued implementation of the Landfill Methane Control Measure, mandatory commercial recycling regulations, and SB 1383.

In addition to helping the State reach its goal for reducing solid waste, the project is in line with the State goal of reducing overall GHG emissions. Per CARB methodology (CARB, 2016b), diverting solid waste from landfills to composting facilities reduces methane emissions from the decomposition of organic material. As discussed in detail in this chapter of the SEIR, methane is a short-lived climate pollutant that has a significantly greater impact on climate change than carbon dioxide. Increased composting operation and diversion of organic materials at the project site as a result of the proposed project would further reduce GHG emissions generated from landfilling solid waste. This reduction increases even further based on the other benefits of composting, such as decreased soil erosion and reduced fertilizer use.

The proposed project helps to achieve these statewide and regional goals, plans, strategies, and regulations. Specifically, the project helps the State reach its goal for reducing solid waste by providing an alternative to landfilling, consistent with AB 341 and SB 1383. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. GHG emissions would be considered less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Emissions of GHGs and their contribution to global climate change are considered a cumulative impact by definition. Therefore, the geographic extent of the project's cumulative area of impact would be worldwide. Accordingly, the project's impact related to GHG emissions is most appropriately considered on a cumulative level, not on a project-level.

To date, the vast majority of other states and nations have not followed California's lead in mandating GHG emission reductions across a broad spectrum of economic sectors and have not enacted regulations similar to those adopted in California, which already has nearly the lowest level of GHG per capita of any state. Moreover, many regulatory measures incorporated in the analysis are regional or statewide in nature and do not provide a mechanism that guarantees GHG emission reductions on a cumulative basis. Kern County has no jurisdictional control or responsibility for GHG reductions in other parts of California (and certainly not in the context of global action), which all contribute to climate change. In addition, the County, as Lead Agency, does not have jurisdiction to enforce statewide implementation of all of the applicable GHG-reducing regulatory programs with which the project (and other statewide projects) must comply. Although many other agencies with the necessary jurisdiction are currently taking action to reduce GHG emissions, the County cannot assure that these measures would ultimately be implemented or sufficient to address climate change. In light of these considerations, as well as the global nature of climate change related to GHG and the project's total estimated GHG emissions, based on the project level analysis of GHG impacts described above and GHG reduction benefits of composting in relation to landfilling food wastes, the project would not cause an incremental effect to GHG emissions which is cumulatively considerable and thus cumulative GHG impacts are less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Cumulative impacts would be less than significant.

4.5.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified Shafter-Wasco Sanitary Landfill Permit Revision Project EIR and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to biological resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.5.2 Environmental Setting

The environmental setting for biological resources is the same as that described in Section 4.5.2 of the 2009 EIR, with updates listed below.

The Shafter-Wasco Recycling & Sanitary Landfill is essentially an island surrounded by intensive agriculture. The 1997 Kern County Waste Facilities Habitat Conservation Plan (HCP) mitigates for disturbance of the entire 160 acres of the landfill and includes measures to avoid and minimize incidental take (killing, harming, or harassing) of these covered species.

The landfill is located amidst intensely cultivated farm fields and is not a part of a wildlife migratory corridor. There are no wetlands or riparian habitat on or around the project site. The site has been disturbed by landfill and diversion operations and related activities such as access roads, drainage facilities, and environmental monitoring wells. The sanitary landfill site has been substantially denuded of vegetation as a consequence of refuse containment. Human disturbance near the site includes scattered trash, off road vehicle tracks, and dirt trails associated with agricultural activities. The remainder of the project vicinity has a history of intense agricultural cultivation. The landfill buffer lands provide a required transitional land use between a public use facility and farmland.

Vegetation is dominated by common saltbush (*Atriplex spp.*). Conspicuous plants include red brome (*Bromus rubens*), Arabian grass (*Schismus arabicus*), mustards (*Brassicas spp.*), Ripgut brome (*Bromus diandrus*), and Russian thistle (*Salsola tragus*). Vegetation on site consists of sub-alkaline valley saltbush scrub with sandy-clay soil. A total of 43 plant species were identified during surveys. Remnants of valley saltbush scrub and valley sink scrub communities are noted as evident in the vicinity of the landfill, occurring as persistent, relatively small examples of original vegetation.

Local Setting

Consistent with the 2009 EIR, lands associated with the proposed project continue to remain disturbed in the project area. Disturbed areas occur throughout the project site, including areas where vehicles and equipment frequently travel and where active landfill and diversion areas currently operate.

APN 088-100-38 is designated as solid waste disposal facility and solid waste disposal facility buffer. Landfill operations have completely disturbed the 160.61-acre landfill portion of the parcel. The 90-acre buffer, which includes the proposed composting and self-haul operation, has been in either constant agricultural use or remained disturbed through landfill and diversion activity since the certification of the 2009 EIR. A variety of row crops are farmed and planted in rotation within the buffer areas.

APN 088-100-08 is designated as solid waste disposal facility buffer. This buffer parcel has been in constant intensive agricultural cultivations predating the landfill and has been planted with various row crops including cotton, alfalfa, and seasonal vegetables such as carrots. Lands have remained in agricultural development since the certification of the 2009 EIR. The previously identified residential dwelling located 750 feet south of the landfill has been abandoned since the 2009 EIR was certified.

Jurisdictional waters are not present on site. There are no natural streams or other natural waterways located on site or in the immediate vicinity of the project area. No evidence of wetlands or other aquatic habitat occur on the project site. With the issuance of an Approved Jurisdictional Determination, the United States Army Corps of Engineers determined that the project site does not contain waters of the United States. Therefore, the landfill and associated activities is not subject to National Pollutant Discharge Elimination System requirements. The project proponent submitted a Notice of Termination to the Water Board and was approved on March 2, 2015.

4.5.3 Regulatory Setting

The regulatory setting for biological resources is the same as that described in Section 4.5.3 of the 2009 EIR, with the following updates.

Federal

Federal Endangered Species Act (ESA)

The Federal Endangered Species Act (ESA) under Section 9 (50 CFR) prohibits the “take” of federally listed species. “Take” is further defined to include hunt, pursue, capture or significantly alter habitat necessary for the species’ survival. Permits to take federally listed species during otherwise lawful activities, may be obtained under Section 7 (for federal agencies only) or under Section 10 (all others) of the ESA. A take permit under Section 10 requires the preparation of a Habitat Conservation Plan (HCP), which is prepared for and negotiated with between the project proponent and the USFWS directly.

Migratory Bird Treaty Act (USC, Title 16, Sections 703 through 711)

The MBTA, first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the

taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird” (U.S. Code Title 16, Section 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Bald and Golden Eagle Protection Act of 1940 (USC, Title 16, Section 668, enacted by 54 State. 250)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC, Title 33, Sections 1251 through 1376)

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (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

CEQA Guidelines, Section 15380

In addition to the protections provided by specific federal and State statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or State list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the CFGC dealing with rare or endangered plants or animals.

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project proponent would have to apply for a take permit under Section 2081(b).

Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB also regulates waters of the state under the Porter-Cologne Act Water Quality Control Act (Porter Cologne Act). The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the state. The RWQCB also has jurisdiction over waters deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County (SWANCC) decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

California Fish and Game Code

Sections 1600 through 1616. Under these sections of the CFGC, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected,

CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 2080 and 2081. Section 2080 of the CFGC states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or memoranda of understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project proponent ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Sections 3503 3503.5, 3513, and 3800. Under these sections of the CFGC, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey or their nests or eggs; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to California Fish and Game Code Section 3800.

Sections 3511, 4700, 5050, and 5515. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000 through 4003. Under Section 4000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including kit foxes, without prior authorization from the CDFW.

CEQA Guidelines, Section 15380

In addition to the protections provided by specific federal and State statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or State list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the CFGC dealing with rare or endangered plants or animals.

Native Plant Protection Act (California Fish and Game Code Sections 1900 through 1913)

California’s Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least ten days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project

proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Local

Kern County General Plan

The Kern County General Plan identifies the federal, State, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, "General Provisions," provides goals, policies, and implementation measures that apply to all types of discretionary projects. In addition, the Kern County General Plan includes policies specific to threatened and endangered species.

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

Since the certification of the 2009 EIR, the policies and implementation measures remain unchanged in Section 1.10.5, Threatened and Endangered Species. However, the goal was not summarized.

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

- Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.
- Policy 28: The County should work closely with State and Federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.
- Policy 29: The County will seek cooperative efforts with local, State, and Federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands. Policy 30. The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.
- Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

1.10.5 Threatened and Endangered Species

Policies

Policy COS 27: Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.

Policy COS 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 COS 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 COS 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 COS 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 EIR) is prepared.

Policy COS 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.

Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.

Kern County Waste Facilities Habitat Conservation Plan

In 1997, the former Kern County Waste Management Department (now the project proponent), prepared the Kern County Waste Facilities HCP. The project proponent continues to pursue an HCP amendment, currently in progress, to include the landfill buffer lands currently not covered by the 1997 HCP (APN 88-100-40 and 88-100-08). The Kern County Waste Facilities HCP includes measures to avoid and minimize incidental take of endangered and threatened species and would apply to the existing landfill and diversion areas as well as any future landfill development projects.

4.5.4 Impacts and Mitigation Measures

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

Methodology

The methodology for biological resources is the same as that described in Section 4.5.5.1 of the 2009 EIR.

Thresholds of Significance

The Threshold of Significance section is the same as that described in Section 4.5.4 of the 2009 EIR, as noted below. No update has been made to the Kern County CEQA Environmental Checklist impact questions for this resource since the certification of the 2009 EIR.

The potential impacts associated with the proposed project are evaluated on a qualitative and quantitative basis through a comparison of the anticipated project effects on biological habitat. The change in the land use is significant if the effects described below occur. The evaluation of proposed project impacts as based on professional judgment, analysis of the County's biological resources policies and adopted Kern County thresholds in the Kern County CEQA Implementation Document.

Project Impacts

Impact 4.5-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

The proposed project is on lands previously heavily disturbed for intensive agriculture cultivation and diversion activities. There is no existing sensitive species or habitat at the project site. Project implementation would not have an adverse effect on biological resources and would be subject to the requirements of the 1997 Kern County Waste Facilities Habitat Conservation Plan (1997 HCP). The HCP includes measures to avoid and minimize incidental take of endangered and threatened species. The 1997

HCP applies to the permitted disposal area but does not include the additional buffer property or the area where the construction and operation of the compost and self-haul facilities will occur. All applicable avoidance and minimization measures as defined in the 1997 HCP would apply to the proposed project. Additionally, Mitigation Measures MM 4.5-1 through MM 4.5-4 from the 2009 EIR will be implemented. Therefore, impacts associated with the proposed project having a substantial adverse effect on biological resources are less than significant.

Mitigation Measures

MM 4.5-1 Prior to, and during, new ground disturbance, such as the development of the new diversion area or a future borrow pit, the project proponent shall implement HCP Minimization and Avoidance measures for activities on buffer lands.

MM 4.5-2 The project proponent will amend the Kern County Waste Management Habitat Conservation Plan to include additional buffer lands.

MM 4.5-3 The project proponent shall conduct a pre-construction survey of any proposed new ground disturbance during the Burrowing owl breeding season (from approximately February 1 through August 31), consistent with CDFW guidelines, in the same calendar year that the disturbance is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed disturbance. If the pre-construction breeding season survey does not identify any nesting owl on the proposed site, then no further mitigation would be required. However, should any Burrowing owl be found nesting on the site, then mitigation measure MM 4.5-4 shall be implemented.

MM 4.5-4 During the Burrowing owl breeding season, the department, consistent with CDFW guidelines, shall not disturb an occupied owl burrow while there is an active nest and/or juvenile owls are present. Avoidance shall include the establishment of a non-disturbance buffer zone around the nest site consistent with CDFW guidelines. The buffer zone shall be delineated by highly visible temporary construction fencing or tape. The occupied nest site shall be monitored by a qualified biologist to determine when the juvenile owl is fledged and independent. Disturbance of an occupied burrow shall only occur outside of the breeding season and when there is no nest or juvenile owl based on monitoring by a CDFW-approved biologist.

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

Impact 4.5-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

Consistent with the analysis of the previously certified 2009 EIR, the proposed project site does not contain riparian habitat. There are no wetlands or fish found on the project site. The proposed project would not 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 United States Fish and Wildlife Service. Therefore, implementation of the proposed project would have no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.5-3: The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Based on review of the USFWS National Wetland Inventory Mapper, the database does not identify any state or federal wetlands in or near the vicinity of the proposed project. The surrounding properties of the project are predominantly agricultural operations. There are no jurisdictional drainage features located on the project site. Therefore, implementation of the proposed project would have no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.5-4: 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

Consistent with the analysis of the previously certified 2009 EIR, the project is not anticipated to interfere substantially with the movement of any native resident or migratory fish or wildlife species. The project site does not contain any trees (including oaks), wetlands, or waterways. All landfill buffer lands and surrounding lands are currently in intensive agricultural cultivation and contain no native and naturalized areas. The immediate project area contains large expanses of agricultural land that provides limited opportunities for local and regional wildlife movement. Therefore, implementation of the proposed project would have no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.5-5: The project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The project will not conflict with local policies or ordinances that protect biological resources. The project falls under the jurisdiction of the Kern County General Plan and Kern County Zoning Ordinance and complies with requirements of these documents. The Kern County General Plan incorporates an Oak Tree Conservation component; however, no oak trees are present at the project site. Therefore, implementation of the proposed project would have no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.5-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

No natural community conservation plan or other regional or local plan exists for the project site. As stated in detail in Impact 4.5-1 above, the lands associated with the project are not currently included in the project proponent's 1997 HCP. Project implementation would not conflict with provisions of an adopted HCP. All applicable avoidance and minimization measures as defined in the 1997 HCP would apply to the proposed project. Therefore, impacts associated with the proposed project conflicting with provisions of an adopted HCP or local plan are less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-4.

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The proposed project will be responsible for implementing mitigation measures to reduce the potential for impacts to species that could occur within the project area. Other projects in the vicinity are obligated to

mitigate their own specific direct effects to biological resources. Large-scale effects to biological resources in the project vicinity are not expected as a result. Most of the land in this area is farmed and does not provide habitat for species, nor does it provide migration opportunities. Furthermore, little habitat exists to support sensitive species within the project area. Therefore, the proposed project would not result in a cumulative impact related to biological resource.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-4.

Level of Significance

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, cumulative impacts would be less than significant.

4.6.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified Shafter-Wasco Sanitary Landfill Permit Revision Project EIR and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to cultural resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

Cultural Resource Terminology

For the purposes of CEQA, “cultural resources” generally refer to prehistoric and historical archaeological sites, isolates, and the built environment. Cultural resources can also include areas determined to be important to Native Americans.

Below are definitions of key cultural resources terms used in this section.

Alluvium: a fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in river beds, and in estuaries.

Archaeological Site: A site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic period archaeological sites reflect activities during the Historic period.

Artifact: An object that has been made, modified, or used by a human being.

Cultural Resource: Cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the

events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.

Ethnographic: Relating to the study of human cultures. “Ethnographic resources” represent the heritage resource of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource-collecting areas, ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods and structures.

Historic period: The period that begins with the arrival of the first nonnative population and thus varies by area. In 1772, Commander Don Pedro Fages was the first European to enter Kern County, initiating the historic period in the project study area.

Historical Resource: This term is used for the purposes of CEQA and is defined in the *CEQA Guidelines* (Section 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

Holocene: Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event or activity (isolates were defined as less than three artifacts within 30 meters of each other). Because isolates may lack identifiable context, and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (PRC Section 21083.2 and *CEQA Guidelines* Section 15064.5).

Lithic: Of or pertaining to stone. Specifically, in archaeology lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.

Pleistocene (Ice Age): An epoch in the Quaternary period of geologic history lasting from 1.8 million to 10,000 years ago. The Pleistocene was an epoch of multiple glaciation, during which continental glaciers covered nearly one fifth of the earth’s land.

Prehistoric period: The era prior to 1772. The later part of the prehistoric period is also referred to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary Age: The most recent of the three periods of the Cenozoic Era in the geologic time scale of the ICS. It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: the Pleistocene and the Holocene Epochs.

Stratigraphy: The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.

Tribal Cultural Resource: These are defined in Assembly Bill 52 (AB 52) as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe”

that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC § 21074 (a)(1)).

Unique Archaeological Resource: This term is used for the purposes of CEQA and is defined in PRC Section 21083.2(g) as an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it either contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.6.2 Environmental Setting

The environmental setting for cultural resources is the same as that described in Section 4.6.2 of the 2009 EIR.

Historical Landmarks

There are no historical resources within five miles of the project area that are listed on the National Register of Historic Places, The California Register, California Inventory of Historic Resources, California State Historic Landmarks, or the California Points of Historical Interest. The Buttonwillow Tree is a historical landmark located in Buttonwillow, near Shafter, but not in the vicinity of the project. The Buttonwillow Tree is located approximately seven miles southwest of the project area.

The parcels containing the landfill and its buffers, themselves, have no noteworthy historical features.

Archaeological

RMI Consultants prepared an archaeological report in 1992 for the Shafter-Wasco Sanitary Landfill (SWSLF). The archaeological assessment included a pedestrian survey of the 100 foot wide buffer area around the existing landfill. The report concluded that the SWSLF area is not archaeologically sensitive (Appendix 28, 1992 FEIR, SCH No. 91072058).

A cultural resources assessment within the 40-acre northern buffer area was performed by Three Girls and a Shovel, LLC in 2006 (Appendix C). This assessment included an archaeological survey as well. The results of this assessment revealed no archaeological, cultural, or historical finds within the study area.

Three Girls and a Shovel (3Girls) performed a cultural resources assessment for 207.3 acres west and south of the existing SWSLF in November and December 2007. No cultural resources were located as a result of the archaeological survey (Phase 1) and site CA-KER 3396H no longer exists. Site CA-KER3396H consisted of a bulldozed road, portions of a cowboy fence and scattered 1930's and 1960's garbage and debris.

An archeological records search and pedestrian survey was conducted by Stantec Consulting Services, Inc. in December 2018 at the California Historic Resource Information System, Southern San Joaquin Valley Information Center. There were no resources previously identified within the proposed project area according to the archival records search. As part of the archival records search, the report identified no findings of historical significance. An archaeological pedestrian survey was conducted on December 13,

2018. The survey included all lands associated with the proposed project (70 acres). It was determined that no historical resources were discovered at the site.

Cultural Resources

Shafter-Wasco Sanitary Landfill Project September 29, 2009 Final Environmental Impact Report 4.6-2 Age determination was made by milk cans, aqua glass fragments and sun modified amethyst glass. Site CA-KER3396H is under the current SWSLF that was developed over that site in 1972.

Three Girls requested a sacred lands search for the project by the Native American Heritage Commission (NAHC). The NAHC was able to perform a records search of its Sacred Lands File for the affected project area (January 23, 2008). The Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the Sacred Lands File does not guarantee the absence of cultural resources in any area of potential effect.

An archeological records search and pedestrian survey was conducted by Stantec Consulting Services, Inc. in December 2018 at the California Historic Resource Information System, Southern San Joaquin Valley Information Center. There were no resources previously identified within the proposed project area according to the archival records search. As part of the archival records search, the report identified no findings of historical significance. An archaeological pedestrian survey was conducted on December 13, 2018. The survey included all lands associated with the proposed project (70 acres). It was determined that no historical resources were discovered at the site.

Paleontology

There are about 20 known fossil localities in the geological formations within Kern County. The project area is not one of the known fossil localities, and the project area is located on recent alluvium which is considered too young to contain paleontological resources.

The following updates have been added.

Local Setting

Consistent with the 2009 EIR, lands associated with the proposed project continue to remain disturbed in the project area. Disturbed areas occur throughout the project site, including areas where vehicles and equipment frequently travel and where active landfill and diversion areas currently operate, as well as where ongoing and historically agricultural activities occur.

APN 088-100-38 is designated as solid waste disposal facility and solid waste disposal facility buffer. Landfill operations have completely disturbed the 160.61-acre landfill portion of the parcel. The 90-acre buffer, which includes the proposed composting and self-haul operation, has been in constant agricultural use. A variety of row crops are farmed and planted in rotation within the buffer areas.

APN 088-100-08 is designated as solid waste disposal facility buffer. This buffer parcel has been in continual intensive agricultural cultivation predating the landfill and has been planted with various row crops including cotton, alfalfa, and seasonal vegetables such as carrots.

There are no historical resources within five miles of the project area that are listed on the National Register of Historic Places, The California Register, California Inventory of Historic Resources, California State Historic Landmarks, or the California Points of Historical Interest.

4.6.3 Regulatory Setting

The regulatory setting for cultural resources is the same as that described in Section 4.6.3 of the 2009 EIR, as noted here.

Federal

There are no applicable federal regulations for this issue area.

State

California Environmental Quality Act

According to CEQA (Public Resources Code, Section 21084.1), historical resources include any resources listed, or determined to be eligible for listing, in the California Register of Historical Resources (California Register). Properties listed in or determined eligible for listing in the National Register, such as those identified in the Section 106 process, are automatically listed in the California Register. Therefore, all “historic properties” under federal preservation law are automatically “historical resources” under state preservation law. Historical resources are also presumed to be significant if they are included in a local register of historical resources or identified as significant in a qualified historical resources survey.

As defined under state law in Title 14 CCR, Section 4850, the term “historical resource” means “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or which is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural history of California.” For the purpose of CEQA, “historical resource” is further defined under Public Resources Code, Section 15064.5 as a “resource listed in, or determined eligible for listing in the California Register.” Section 15064.5 of the State CEQA Guidelines sets forth criteria and procedures for determining significant historical resources and the potential effects of a project on such resources. California criteria closely mirror those of the Federal NRHP.

Generally, a cultural resource shall be considered by the lead agency to be “historically significant” if the resource meets any of the criteria for listing on the California Register, including the following:

- The resource is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- The resource is associated with the lives of persons important in our past;
- The resource embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, information important in prehistory or history.

The cited statutes and guidelines specify how cultural resources are to be managed in the context of projects such as the proposed project. Briefly, archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways. Prehistoric and historical resources deemed “historically significant” must be considered in project planning and development.

Significant paleontological resources are defined as fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or important to define a particular time frame or geologic strata or that add to an existing body of knowledge in specific areas, in local formation, or regionally. Paleontological remains are accepted as nonrenewable resources significant to our culture and, as such, are protected under provision of the Antiquities Act of 1906 and subsequent related legislation, policies, and enacting responsibilities.

In the State of California, fossil remains are considered to be limited, nonrenewable, and sensitive scientific resources. These resources are afforded protection under the following State of California legislation:

- CEQA of 1970;
- Public Resources Code, 21000 et seq., which requires public agencies and private interests to identify potential adverse impacts and/or environmental consequences of their proposed project(s) to any object or site important to the scientific annals of California (Division 1, Public Resources Code: 5020.1[b]); and
- Guidelines for Implementation of CEQA (as amended January 1, 1999). State CEQA Guidelines Section 15064.5(a)(3) provides protection for paleontological resources by requiring that they be identified and mitigated as historical resources under CEQA. The State CEQA Guidelines define historical resources broadly to include any object, site, area, or place that a lead agency determines to be historically significant.

State CEQA Guidelines Section 15064.5(a)(3) provides protection for paleontological resources by requiring that they be identified and mitigated as historical resources under CEQA. The State CEQA Guidelines define historical resources broadly to include any object, site, area, or place that a lead agency determines to be historically significant.

The following updates have been added.

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the CRHR is “an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” Certain properties, including those listed in, or formally determined eligible for listing in, the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.

2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC 5024.1, Title 14 California Code of Regulations [CCR], Section 4852(c), a cultural resource must retain integrity to be considered eligible for the CRHR. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as farming, often lack integrity because they have been directly damaged or moved from their original location, among other changes.

Typically, an archaeological site in California is recommended eligible for listing in the CRHR based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have Statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the CRHR.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California);
2. It is associated with an individual or group having a profound influence on the history of California; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest (PHI)

California Points of Historical Interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a landmark and a point. If a point is later granted status as a landmark,

the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
2. It is associated with an individual or group having a profound influence on the history of the local area; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

In addition to the CEQA details provided in the 2009 EIR, additional information related archaeological resources is required. An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource. An archaeological artifact, object, or site is considered a unique archaeological resource if "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, as presented in PRC 21083.2(g):

- 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.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Assembly Bill 52

Assembly Bill (AB) 52 expands CEQA to require analysis of potential project impacts to tribal cultural resources in project environmental documents. A tribal cultural resource includes sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and that are eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources.

The goal of AB 52 is to include California Tribes in determining whether a project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the Tribe and its members. The law specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation. Such consultation must occur early, prior to determining whether a negative declaration, mitigated negative declaration, or EIR is required for a project. The law specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources.

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.

Native American Outreach

As part of the information-gathering process for the cultural resources chapter, herein, and tribal resources (Section 4.15, Tribal Cultural Resources) under the County's required SB-18 and AB 52 consultation, outreach letters were mailed. One tribe listed on the County AB 52 notification list was mailed a letter on May 9, 2020 and responded. The same tribal group affiliated within the project site as indicated by the NAHC SB-18 consultation document was mailed an outreach letter on June 18, 2020 per notification requirements. Neither the SB 18 or the AB 52 consultation provided any interest from tribal groups to consult in the preparation of this SEIR due to lack of relevant territory within the project area.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public related to "Native American graves, cemeteries, and sacred places maintained by the NAHC." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the NAHC, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency."

California Health and Safety Code, Sections 7050 and 7052

Health and Safety Code, Section 7050.5, declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code, Section 622.5

California Penal Code, Section 622.5, provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Open Space and Conservation Element

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

4.6-4 Impacts and Mitigation Measures

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

Methodology

The methodology for cultural resources is the same as that described in Section 4.6.4.1 of the 2009 EIR. As described above, in order to evaluate the project's potential effects on cultural resources, an archival research and archaeological pedestrian survey were conducted.

Thresholds of Significance

The Threshold of Significance section is the same as that described in Section 4.6.4.2 of the 2009 EIR. No update has been made to the Kern County CEQA Environmental Checklist impact questions for this resources since the certification of the 2009 EIR.

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

A project would have a significant adverse effect on cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.4;
- b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.4;
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

All of the above impact thresholds are addressed in the "Project Impacts" section below. Impacts to tribal cultural resources have been addressed in Section 4.15, *Tribal Cultural Resources*, of this SEIR.

Project Impacts

Impact 4.6-1: The project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

No National Register of Historic Places or National Landmark sites exist within, or in proximity to, the project area. No California Register of Historical Resources Sites, California State Historical Landmarks, or Points of Historic Interest exist within, or adjacent to, the project area. In general, CEQA considers a historical resource as any resource that: (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) is associated with lives of persons important in our past; (3) embodies the distinctive characteristic of a type, period, region, or method of construction or represents the work of an important creative individual, or possesses high artistic value; or (4) has yielded, or may be likely to yield, information important in prehistory or history.

The Project does not involve the demolition, destruction, relocation, or alteration of historical resources as defined under CEQA. A pedestrian archaeological survey was conducted on December 13, 2018. The survey included the land associated with the proposed composting facility and the portion of the southern parcel proposed as solid waste facility buffer. It was determined that no historical resources were discovered at the site. As part of the archival records search, the report identified no findings of historical significance.

Therefore, the project will not cause a substantial adverse change in the significance of a historical resource and will have no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.6-2: The project would cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.

As previously detailed above, no archaeological resources have been identified within the project site. There were no cultural resources previously identified within the current project area according to the archival records search and pedestrian survey. Impacts to resources could result from ground-disturbing activities such as excavation, grading, trenching, clearance, heavy equipment operation, or other surface and sub-surface disturbances. These activities could damage or destroy surficial or buried archaeological resources.

Due to the history of significant disturbance and previous landfilling and agricultural activities at the project site, it is highly unlikely that intact archaeological resources are present. However, unknown subsurface archaeological deposits that qualify as unique archaeological resources may be discovered during project construction and operation. Therefore, the project would not cause a substantial adverse change in the significance of cultural resources with the incorporation of Mitigation Measures MM 4.6-1 and MM 4.6-2, below.

MM 4.6-1: If Native American burial sites are discovered during excavation of the site, the excavation shall be halted and the project shall comply with the Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e).

MM 4.6-2: 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 qualified archaeologist shall evaluate the significance of the resources and recommend appropriate treatment measures. Per *CEQA Guidelines* Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with *CEQA Guidelines* Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center.

Mitigation Measures

Implementation of Mitigation Measure MM 4.6-1 and MM 4.6-2

Level of Significance

With implementation of Mitigation Measure MM 4.6-1 and MM 4.6-2, impacts would be less than significant.

Impact 4.6-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no evidence that the project site is in an area likely to contain human remains. Due to the history of heavy disturbance and previous landfiling activities at the project site, discovery of human remains during earthmoving, excavation, grading, trenching, or clearance activities is not anticipated. Mitigation Measures MM 4.6-1 through MM 4.6-3 would ensure that any human remains encountered are appropriately treated, thus reducing any potential impacts to a less than significant level.

MM 4.6-3: If human remains are uncovered during project construction, the project contractor shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in of the California Environmental Quality Act Guidelines Section 15064.4(e)(1). If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code (PRC) Section 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per PRC Section 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (Section 7100 et. seq.) directing identification of the next-of-kin will apply.

Mitigation Measures

Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3

Level of Significance

With implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that

are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-10, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope for cumulative impacts to cultural and paleontological resources includes a ½ -mile radius around the project, as stated in the archaeological report and survey. This analysis is appropriate because the archaeological, historical, and paleontological resources within this radius are expected to be like those that occur on the project sites because of their proximity – similar environments, landforms, and hydrology would result in similar land use. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity.

Construction and excavation activities associated with some related projects could contribute to the loss of paleontological resources and result in significant cumulative impacts under CEQA. The proposed project could also disturb or destroy paleontological resources that may exist in the proposed project area, which would be a significant impact. Thus, the combined effects of the proposed and related projects could result in significant cumulative impacts to paleontological resources. However, mitigation measures have been identified (see Table 1-6) that would reduce potential project-related impacts to below a level of significance. Similar measures may also be implemented for other related projects that have the potential to affect paleontological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to a cumulatively considerable impact to cultural or archaeological resources.

As discussed above, the proposed project would not impact known historical resources. However, there is potential for project-related impacts to unknown subsurface archaeological resources that may qualify as historical resources and/or unique archaeological resources pursuant to CEQA. Potential impacts of the proposed project to unknown archaeological resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of historical and/or unique archaeological resources within the region. However, this analysis includes mitigation measures in the event that archaeological resources are encountered during construction activity, which would reduce project impacts to less than significant, and therefore would not contribute to significant cumulative impacts to cultural resources. Therefore, with implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, the proposed project would not have a cumulatively considerable contribution to impacts to historical and/or unique archaeological resources and would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.6-1 through MM 4.6-3

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, cumulative impacts would be less than significant.

4.7.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to biological resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

This section provides technical information to the proposed project site’s geology and soil characteristics and addresses the potential impacts from seismic hazards, seismic related ground failure, soil erosion, and expansive and unstable soils associated with construction and operation of the proposed project. The geology and soils section, describes the existing conditions of the project site, the regulatory setting, and discusses the possible impacts from project implementation as well as project mitigation measures to reduce these impacts.

4.7.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project is an existing Class III municipal solid waste disposal facility (landfill) located at 17621 Scofield Avenue, Shafter, CA 93263. The facility operates under an existing conditional use permit (CUP) CUP No. 1 Map No. 78. Operations within the currently approved CUP boundary encompass 357.48 acres of which 135 acres are permitted for disposal. The proposed modifications to the currently approved CUP would include an additional 50.21 acres folded into the Solid Waste Facility Permit (SWFP) as permitted facility boundary and into the CUP as solid waste disposal facility buffer increasing the acreage of the facility to 401.69 acres. The 50.21 acres is a portion of assessor’s parcel number (APN) 088-100-08.

The environmental setting for geology and soils resources is the same as that described in Chapter 4.7.2 – *Geology and Soils, Environmental Setting*, pages 4.7-1 through 4.7-6 – of the 2009 EIR, with the following updates.

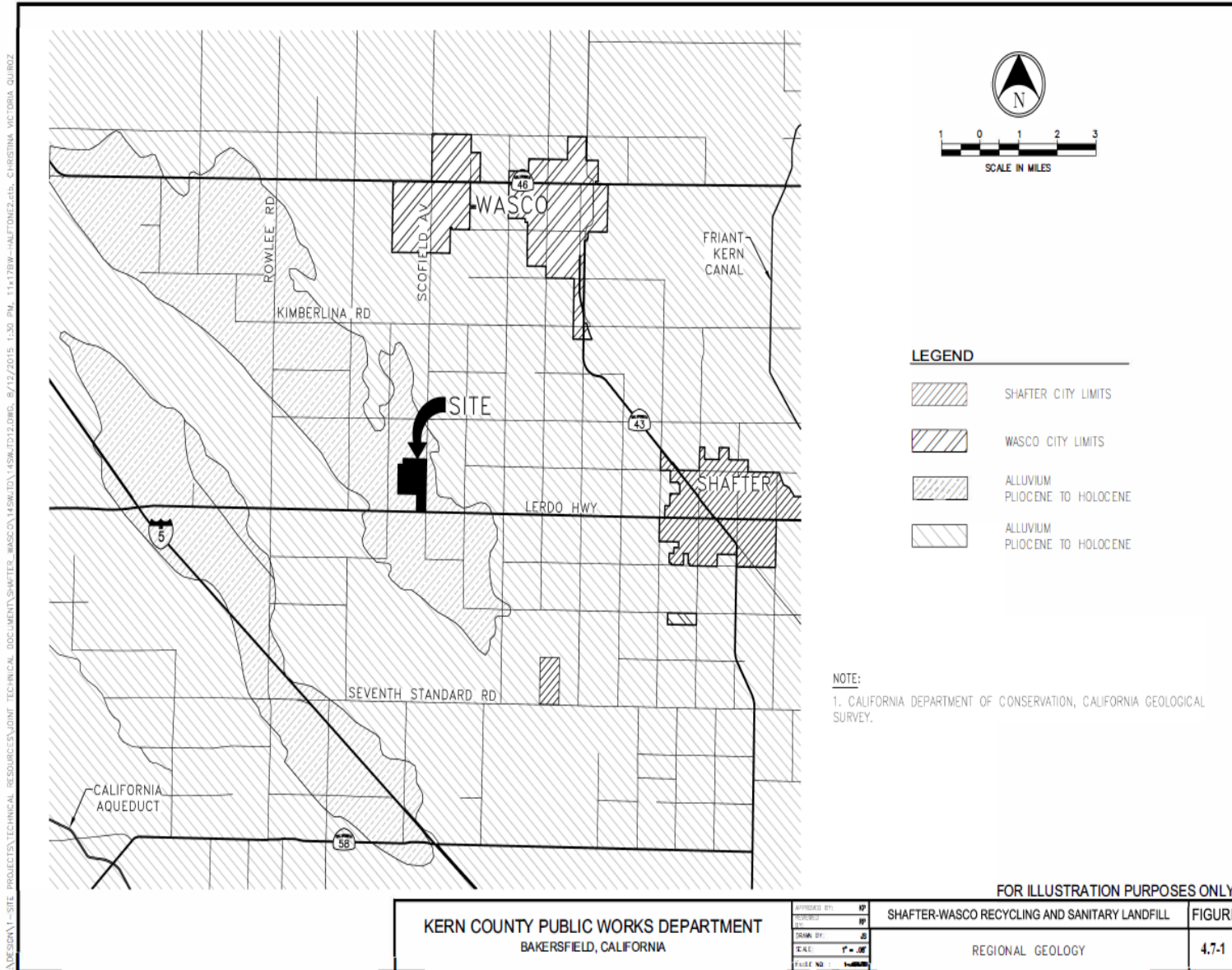
Geologic Setting & Soils Profile

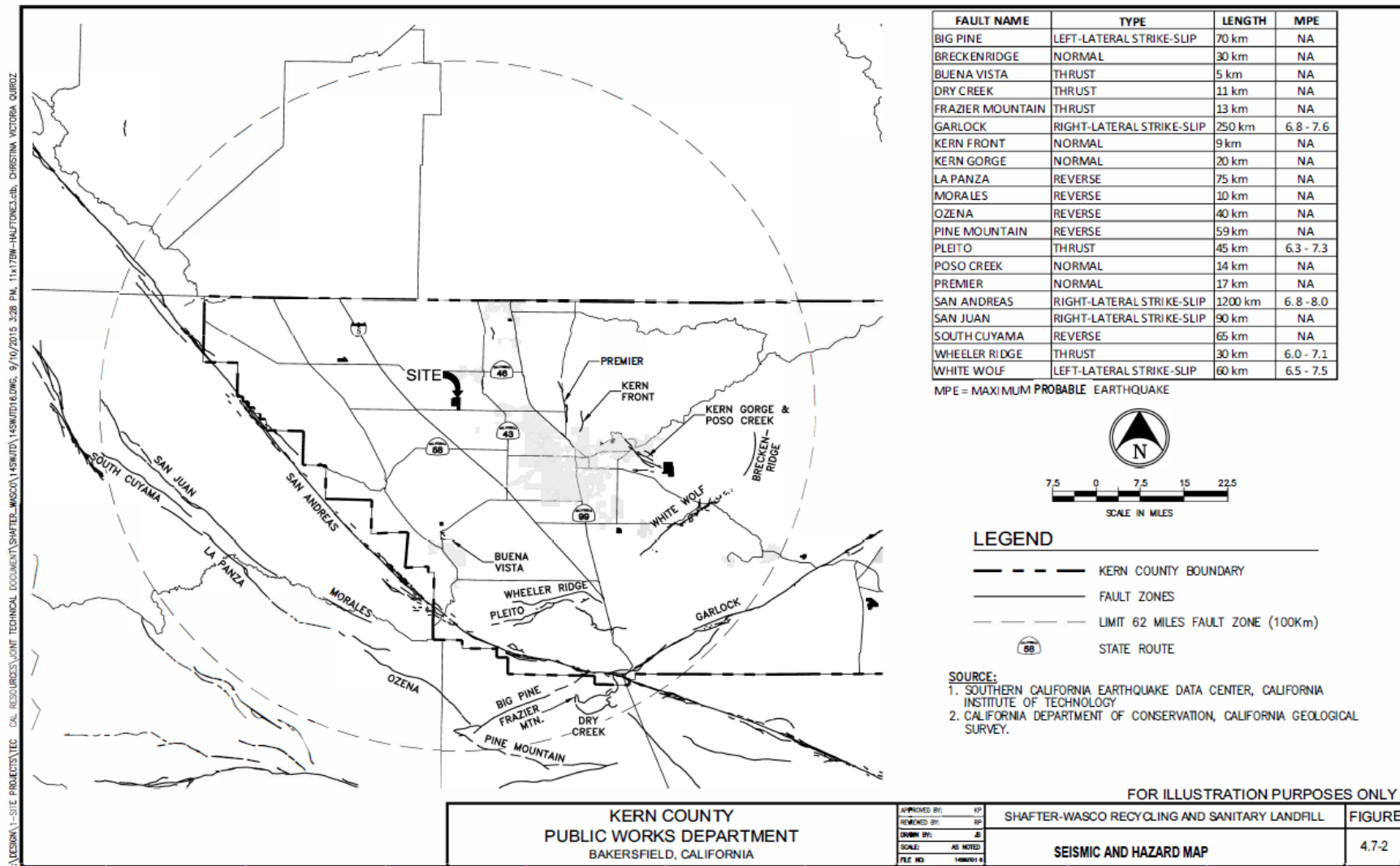
Kern County is in one of the more seismically active areas of California and may at any time be subject to moderate to severe ground shaking. This hazard exists because elastic strains accumulate deep within the earth, resulting in movement along a fracture zone that intermittently releases large amounts of energy

during earthquakes. The south end of the San Joaquin Valley is surrounded, excluding the north, by active fault systems (San Andreas, White Wolf-Breckenridge-Kern Canyon, and Garlock Faults). Numerous smaller faults exist within the valley floor. Existing landfill operations, ancillary activities, and division program operations continue to operate in the geologic setting as described in Section 4.7.2 of the 2009 EIR. The geological setting of the proposed composting facility and operation is described below. See **Figure 4.7-1, *Regional Geology***, and **Figure 4.7-2, *Seismic and Hazard Map***, below for the project's geologic setting and fault systems.

The subsurface conditions of the proposed composting facility and operation appear typical of those found in the geologic region of the site. In general, the upper soils along the edges of the site consists of approximately 6 to 12 inches of fill material. The fill material predominately consists of silty sand and sandy silt. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. The limited testing indicates that the fill soils had varying strength characteristics ranging from loosely placed to compacted (Krazan & Associates, Inc., 2019).

Beneath the fill soils, approximately 2 to 3 feet of loose to dense silty sand or sandy silt exist. Field and laboratory tests suggest these soils are moderately strong and moderately compressible. Below four to five feet, layers of predominately medium dense to dense silty sand, sandy silt, silty sand/sand, sand or clayey sand/sandy clay exist. Field and laboratory tests suggest these soils are moderately strong and slightly compressible. A representative soil sample had an angle of internal friction of 20 degrees. These soils had slightly stronger strength characteristics than the upper soils and extended to the termination depth of our borings.





Faults and Seismic History

Kern County is in one of the more seismically active areas of California and may at any time be subject to moderate to severe ground shaking. There are no identified active or potentially active faults underlying the site or adjacent areas. No evidence was observed that indicated surface faulting has occurred across the property during the Holocene time. Faults not yet identified, however, may exist. The site is not within an Earthquake Fault Zone (special studies zone). The project site is located within proximity to several active faults with historic events, as described in the 2009 EIR.

Geologic 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 soil erosion. The Kern County General Plan provides fault locations and policies and implementation measures for seismic hazards. Due to proximity to major fault systems, the project area and its vicinity is considered susceptible to seismic hazards.

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. 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. The presence of expansive soils is generally site specific and determined through a preliminary geotechnical investigation from laboratory analysis of subsurface soils. Regardless, the hazard can generally be minimized through implementation of applicable building codes and structural improvement requirements such as treatment of soils or replacement with engineered fills.

Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. Liquefaction occurs when water saturated, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. The project site’s 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 (bgs). In order to determine the liquefaction susceptibility of a region, three major factors must be analyzed. These include: (1) the density and textural characteristics of the alluvial sediments; (2) the intensity and duration of ground shaking; and, (3) the depth to groundwater.

Based on data from the project site, groundwater was reportedly 60 feet below the ground surface (RWQCB, 2001). Refer to Section 4.8, *Hydrology and Water Quality*, of this EIR for additional information on

groundwater and groundwater levels. Groundwater levels can vary depending on seasonality and other factors including amount of local groundwater extraction and annual precipitation.

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 potential for lateral spreading to occur at the site is low. The project site lies in a relatively flat-lying plain where landslides, lateral spreading, subsidence, liquefaction, and collapse are not expected to occur. Furthermore, the improvements would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08), as well as all applicable International Building Code (IBC) and CBC earthquake construction standards, including those relating to soil characteristics.

Soil Erosion

Soil erosion occurs when surface materials are worn away from the earth's surface due to land disturbance and/or natural factors such as wind and precipitation. The potential for soil erosion is determined by characteristics including texture and content, surface roughness, vegetation cover, and slope grade and length. Wind erosion typically occurs when fine-grained non-cohesive soils are exposed to high velocity winds, while water erosion tends to occur when loose soils on moderate to steep slopes are exposed to high-intensity storm events. Soil is naturally removed from the surface of the earth by water or wind action at about the same rate it is produced. In general, soil erosion potential is greatly reduced with landscaping or covered by impervious surfaces.

Fault Rupture

Ground surface rupture along an earthquake fault may cause damage to aboveground infrastructure and other features and occurs when movement on a fault deep within the earth breaks through to the surface. Fault 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, continuous aseismic fault split of the earth's crust. Fault rupture is considered to be most likely to occur along the identified traces of active faults. The project area is not located within a currently mapped California Earthquake Special Studies Fault Zone. Among those considered to be presently active and near the project site are the Kern Front Fault (19 miles east), the Buena Vista Fault (24 miles south), the White Wolf Fault (41 miles south east) and the San Andreas Fault (28 miles west). Although the site is subject to strong ground shaking and possible surface readjustment, based on available geologic data, there is a very low potential for surface fault rupture to occur on the site during the design life of the project.

Settlement of Soils

The settlement of soils is characterized by sinking or descending soils that occurs as the result of a heavy load being placed on underlying sediments, and may be triggered by seismic events. Seismically induced settlement is dependent on the relative density of the subsurface soils. Without any available geotechnical testing to indicate the existing engineering properties of site soils, it is not possible to determine the current susceptibility to settlement. However, industry standard site preparation methods that could include foundation design measures

such as compaction of surface soils or use of engineered fill that would be included as part of a final geotechnical design report to minimize the potential for settlement.

Strong Ground Shaking

Strong ground shaking from an earthquake can result in damage associated with landslides, ground lurching, structural damage, and liquefaction. The Southern California region is characterized by, and has a history of, seismic activity. Earthquakes are classified by their magnitude, a measure of the amount of energy released during an event. During a seismic event, the project site may be subjected to high levels of ground shaking due to proximity to active faults in the area. The largest fault in the area is the San Andreas Fault, which is considered active. Within the project vicinity, the San Andreas Fault's most recent seismic event occurred in 1916 which was lesser in magnitude than the Fort Tejon earthquake of 1857. The 1857 magnitude 7.8 earthquake was one of the greatest earthquakes in U.S. history and resulted in over 200 miles of surface displacement. Geologists consider this fault as having the potential to generate an earthquake in magnitude of between 7.9 and 8.1 on the Richter scale.

4.7.3 Regulatory Setting

The regulatory setting for geology and soils resources is the same as that described in Chapter 4.7.3 – *Geology and Soils, Regulatory Setting*, pages 4.7-7 through 4.7-9 – of the 2009 EIR.

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and avoidance of hazards.

The California Environmental Quality Act (CEQA) is the major environmental statute that guides the design and construction of projects on nonfederal lands in California. This statute establishes a specific process for environmental impact analysis and public review. In addition, the project proponent must comply with other applicable federal, State, and local statutes, regulations, and policies. Relevant and potentially relevant statutes, regulations, and policies are discussed below, with updates.

Federal

Clean Water Act (Erosion Control)

The Federal Clean Water Act (CWA) (33 USC 1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process. Projects that disturb 1 acre or more are required to obtain NPDES coverage under the NPDES General Permit for Storm Water 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 to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.9, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the project would be required to adhere.

State

Water Quality Resources Control Board – General Waste Discharge Requirements for Composting Operations

On August 4, 2015, the State Water Resources Control Board (State Water Board) certified the associated Environmental Impact Report and adopted General Waste Discharge Requirements for Composting Operations, Order WQ 2015-0121- DWQ (Composting General Order). The Composting General Order addresses water quality protection at composting facilities. The Composting General Order was developed to efficiently support the diversion of organic material from landfills to composting operations while providing requirements to protect water quality.

The General Order requires control of wastewater generated by the compost process as composting operations have the potential to result in substantial soil erosion or loss of topsoil. Construction and operations are designed to eliminate and minimize erosion and ponding, and operations areas are inspected to determine effectiveness of erosion control best management practices. Maintenance activities associated with, but not limited to, the working surfaces, berms, ditches, and erosion control best management practices, are required in compliance with the requirements of this General Order.

As identified in Attachment D, Technical Report Requirements, of the Composting General Order, the following geology and soils requirements apply – 1) Map and Cross Sections: a comprehensive geologic map and geologic cross sections showing lithology and structural features; and 2) Materials: a description of natural geologic materials in and underlying the location of the operations, including identification of lithology, distribution and dimension features, physical characteristics, special physical or chemical features (i.e., alteration other than weathering), susceptibility to natural surface/near-surface processes, and all other pertinent lithologic data, all in accordance with current industry practices.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- a) That the quality of all the waters of the State shall be protected,
- b) That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- c) That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

Under the Porter-Cologne definition, the term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. California retains authority to regulate discharges of waste into any waters of the state, regardless of whether the United States Army Corps of Engineers has concurrent jurisdiction under Section 404 of the Clean Water Act.

Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of waste discharge requirements (WDRs). Anyone discharging or proposing to discharge materials that could affect water quality must file a report of waste discharge. The State Water Board and Regional Water Boards can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions.

California Building Code

The State of California provides minimum standards for building design through the California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations and 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 CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions within California. In accordance with the CBC and local provisions, a grading permit is required during implementation of a project. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission in July, 2016, and took effect starting January 1, 2017. The 2016 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads¹ as well as other loads (such as wind loads) for inclusion into building codes.

¹ A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

Local

Kern County Code of Building Regulations (Title 17 of the Ordinance code of Kern County)

All construction and operation of the proposed project in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the CBC, 2013 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted.

Chapter 17.28. Kern County Grading Code

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and the public welfare by regulating grading on private property. All requirements of the Kern County Grading Code would be applied during implementation of the project. All required grading permit(s) would be obtained prior to commencement of construction activities. The following section of the Grading Code are applicable to the project – 17.28.070 (Grading Permit Requirement), 17.28.130 (Drainage), 17.28.140 (Erosion Control), 17.28.150 (Drainage Retention Facilities), and 17.28.170 (Grading Inspection).

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 General Plan

The project site is located within the Kern County General Plan. Below are the applicable policies, goals, and implementation measures for geology and soils found in the Kern County General Plan (KCGP). The KCGP 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 1. Land Use, Conservation, and Open Space Element

Public Services and Facilities

- 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 this General Plan.

1.3 Physical and Environmental Constraints

Goal

- Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policy

- Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Implementation Measures

- Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.
- Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

Chapter 4: Safety Element

Goal

- Goal 1: Minimize injuries and loss of life and reduce property damage.

4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

- Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measure

- Measure B: Require geological and soils engineering investigations in identifying significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5 Landslides, Subsidence, Seiche, and Liquefaction

Policies

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

Kern County National Pollutant Discharge Elimination System Program

As closed systems never contacting the ocean, many of the waters within Kern County are technically not subject to protective regulations under the federal (National Pollutant Discharge Elimination System Program) NPDES Program. The Kern County NPDES Program serves as a regulatory substitute to ensure water quality within the County is maintained during all construction activities, regardless of discharge location. The Kern County NPDES program applies to all projects that would disturb more than one acre. The Kern County Engineering and Survey Services Department requires the completion of an NPDES applicability form for projects with construction disturbing one or more acre within Kern County. This form requires the applicant to provide background information on construction activities and to identify whether storm water runoff has the potential of discharging into waters of the United States, be contained onsite, or discharge indirectly offsite to a river, lake, stream, or offsite drainage facility. Should storm water runoff be contained onsite and not discharge into any waters, no special actions are required. Should storm water runoff discharge into waters of the United States, compliance with the State Water Resources Control Board (Water Board) Construction General Permit is required, which requires preparation of a SWPPP. Should storm water runoff not drain to waters of the United States (e.g., drains to a terminal drainage facility), the applicant would be required to develop a SWPPP and BMPs.

Projects disturbing at least one 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 (ESPS) must verify the applicant's stormwater plans. Applicants must apply for the permit under one of the following four conditions:

1. All storm water is retained onsite and no storm water runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
2. All storm water runoff is not retained on site, but does not discharge to a Water of the United States (i.e. drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
3. All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control

Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.

4. Construction activity is between one to five acres and an Erosivity Waiver was granted by the Water Board. BMPs must be implemented.

4.7.4 Impacts and Mitigation Measures

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

Methodology

The methodology for geology and soils resources is the same as that described in Section 4.7.4 of the 2009 EIR, Appendix B of this SEIR.

Potential significant impacts associated with the project site were identified based on a review of site conditions based on the equipment and operations included in the proposed project, as well as a review of existing literature, including the Kern County General Plan, with the following updates.

In 2019, Krazan & Associates, Inc. performed a limited *Geotechnical Engineering Investigation for the Proposed Shafter-Wasco Compost Facility*, Appendix G. This technical investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and engineered fill construction. This report presents the results of the investigation. Discussions regarding site conditions are presented with conclusions and recommendations pertaining to site preparation, engineered fill, utility trench backfill, drainage and landscaping, foundations, retaining walls, pavement design and soil cement reactivity. This report is included as Appendix G of this SEIR.

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on geology and soils resources, 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 ground shaking;

- iii. Seismic-related ground failure, including liquefaction; or
 - iv. Landslides.
- b. Results in substantial soil erosion or the loss of topsoil;
 - c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse;
 - d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
 - e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater; or
 - f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides.

The project is in the highly seismic, southern California region within the influence of several fault systems. However, the project is not located in an area of a known earthquake fault as delineated on the most current Alquist-Priolo Earthquake Fault Zoning Map. The nearest mapped active faults are Kern Front and Buena Vista, 19 miles east and 24 miles south of the site, respectively. The San Andreas Fault is 28 miles west of the site. According to the Kern County Seismic Hazard Atlas Maps, no known active faults underlie the project area, nor are any older inactive faults mapped across the site. The project site is not subject to liquefaction or landslides according to the Kern County Seismic Hazard Atlas Maps and professional geotechnical reports prepared by Vector Engineering Inc. included in the previously certified Final EIR.

The project primarily involves modifications to existing operations including new construction of the forced aeration static pile composting system, concrete pads, control building, and the addition of associated equipment operations to accommodate the proposed changes. Should strong seismic ground shaking occur at the project site, damage to these improvements and other ancillary facilities could result in potential damage or injury to on-site staff.

A geotechnical report for the land designated for the proposed composting facility was prepared by Krazan (2019) concluding the project area is technically sound from a geological respect. The subsurface conditions of the proposed composting facility and operation appear typical of those found in the geologic region of the site. In general, the upper soils along the edges of the site consists of approximately 6 to 12 inches of fill material. The fill material predominately consists of silty sand and sandy silt. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. The limited testing indicates that the fill soils had varying strength characteristics ranging from loosely placed to compacted. Beneath the fill soils, approximately 2 to 3 feet of loose to dense silty sand or sandy silt exist. Field and laboratory tests suggest these soils are moderately strong and moderately compressible. Below four to five feet, layers of predominately medium dense to dense silty

sand, sandy silt, silty sand/sand, sand or clayey sand/sandy clay exist. Field and laboratory tests suggest these soils are moderately strong and slightly compressible. A representative soil sample had an angle of internal friction of 20 degrees. These soils had slightly stronger strength characteristics than the upper soils and extended to the termination depth of our borings.

In addition, construction of the project would be subject to all applicable ordinances of the Kern County Building Code. Adherence to all applicable regulations would mitigate any potential impacts associated with implementation of the project. The project structures, including the composting facility, control building, and self-haul diversion pad, will be designed in accordance with the applicable construction requirements of the Uniform Building Code standards, as stated in Mitigation Measure 4.7-2 of the previously certified 2009 EIR, to accommodate the anticipated seismic load of the maximum probable earthquake.

Prior to the issuance of grading permits, the project proponent would be required to retain a licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking and liquefaction at the site. All grading and construction onsite would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations by the California-registered professional geotechnical engineer in accordance with California and Kern County Building Code (Chapter 17.08) requirements, the IBC, and the CBC. The required measures would include site preparation, foundation specifications, and protection measures for buried metal. The final structural design would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved new site design would be submitted to the Kern County Planning and Natural Resources Department. Implementation of these building code requirements and local agency enforcement would reduce impacts from ground shaking to less than significant.

Adherence to the requirements of the Kern County Building Code, the ICB, the CBC and Mitigation Measures MM 4.7-1 through MM 4.7-3 would ensure that seismic hazards would be minimized. The proposed improvements would be constructed in accordance with all applicable codes, which require property line and public roadway setbacks that would protect the general public and onsite staff from potential hazards associated with the facilities that could result from an earthquake. Personnel present during the construction and operation phases of the project would not be exposed to a substantial increase in seismic ground shaking hazards as a result of project implementation beyond those that generally exist in the entire project region.

Liquefaction potential is generally greatly diminished with groundwater levels that are deeper than 50 feet below ground surface. Water bearing zones beneath the site consist of confined, unconfined, and perched aquifers. In September 2018, the unconfined groundwater surface was measured in the landfill water well at a depth of 342 feet below grade surface. Current depth to the highest perched aquifer is approximately 70 to 85 feet below grade surface, and the predominant flow direction is to the east-northeast. As required under the Composting General Order, erosion control measures and best management practices shall be implemented to reduce, minimize, or eliminate potential impacts of ponding that may lead to liquefaction.

Therefore, the project would not expose people or structures to potential substantive adverse effects related to seismic activity and is not prone to liquefaction or landslides. Impacts of the proposed project implementation are less than significant for items i, iii, and iv above. The impacts associated strong seismic-ground shaking (item ii above) are less than significant for the proposed project with the incorporation of

Mitigation Measure MM 4.7-2 of the 2009 EIR, mitigation measures presented below, and the application of applicable ordinances of the Kern County Building Code.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3 described in Section 4.7.4 of the previously certified 2009 EIR, noted below, and in the Chapter 1, *Executive Summary* section of this SEIR, will be implemented.

- MM 4.7-1:** In accordance with the California Code of Regulations Title 27, Section 20370, landfill construction shall be designed and built to withstand the maximum probable earthquake so that the landfill system is not compromised during a major seismic event.
- MM 4.7-2:** In accordance with the applicable construction requirements of the Uniform Building Code's standards, future structures at the site will be designed to accommodate anticipated seismic loads.
- MM 4.7-3:** Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction onsite 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.
- a. 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 Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, impacts would be less than significant.

Impact 4.7-2: The project would result in substantial soil erosion or the loss of topsoil.

Construction related elements of the project would involve earthwork activities that could expose soils to erosion. The project is located on generally flat topography and would not involve grading steep slopes. Nevertheless, earthmoving and construction activities could loosen soil, and the removal of vegetation could contribute to soil loss and erosion by wind and stormwater runoff.

The requirements of the National Pollution Disposal Elimination System (NPDES) Program provide that a Storm Water Pollution Prevention Plan (SWPPP) be prepared and implemented for construction activities associated with the proposed project. The SWPPP would require the implementation of best management

practices to keep soils and sediments in place (erosion control) and practices to capture any sediment that is moved by stormwater before it leaves the project site (sediment control).

As required under the Composting General Order, erosion control measures and best management practices shall be implemented to reduce, minimize, or eliminate potential impacts of soil erosion or the loss of topsoil. Facility design features to contain wastewater on-site include: 1) design, construct, and maintain used for receiving, processing, and storing of feedstocks and compost to control from a 25-year, 24-hour peak storm event; 2) protect receiving and storing areas from a 25-year, 24-hour peak storm event; and 3) design and operate a detention pond, containment berm, and drainage conveyance system 25-year, 24-hour peak storm event. Construction of the composting facility will not include the removal of topsoil offsite. Soil excavated as a result of the project will either be incorporated into another activity of the project site or retained on site for use during landfill operations as daily cover or final cover.

Pursuant to the Kern County Grading Ordinance (Section 17.28.070), the project would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations in order to obtain required grading permits. Permit requests for grading are submitted to the Kern County Public Works Department, Engineering and Building Inspection divisions for discretionary review and approval once all requirements have been satisfactorily met. Given the relatively flat nature and pervious surface of the project site, it is unlikely that soil erosion from water runoff would occur with implementation of the construction SWPPP and the required best management practices. The proposed composting facility shall be designed in accordance with Title 14 and Title 27 CCR standards. As a result, the project would have less-than-significant impacts related to erosion.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.7-3: The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

Consistent with the analysis of the 2009 EIR and analysis presented above, the project soils would not be subject to landslide, lateral spreading, subsidence, liquefaction, or collapse as the project is not located on a geologic unit or soil that is unstable. Soils within the project area are consistent with soils identified in 2009 Final EIR and the Krazan (2019) geotechnical engineering investigation for the project site.

Chapter 18 of the CBC provides requirements for geotechnical reports to include evaluation and geotechnical design measures to address any soils that are found incapable of supporting the proposed improvements. Placement of structures or other improvements can represent new loadings on natural soils or artificial fills that could compress over time. A geotechnical report would determine the susceptibility of the subject site to settlement from compressible soils and prescribe appropriate engineering techniques for reducing its effects.

In 2019, Krazan performed a limited *Geotechnical Engineering Investigation for the Proposed Shafter-Wasco Compost Facility*, Appendix G, of this SEIR. This technical investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and engineered fill construction. This report presents the results of the investigation. Discussions regarding site conditions are presented with conclusions and recommendations pertaining to site preparation, engineered fill, utility trench backfill, drainage and landscaping, foundations, retaining walls, pavement design and soil cement reactivity. This report is included as Appendix G of this SEIR. In summary, the land designated for the proposed composting facility concluding the project area to be technically sound. Therefore, with adherence to building code requirements and recommendations from the geotechnical report, the potential for unstable soils to adversely affect proposed improvements would be reduced to less than significant levels.

Mitigation Measures

Implement Mitigation Measure MM 4.7-2, noted above.

Level of Significance

With implementation of Mitigation Measure MM 4.7-2, impacts would be less than significant.

Impact 4.7-4: The project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Consistent with the analysis of the 2009 EIR, the project's existing soils are young alluvial soils that have a small potential to shrink and swell. Any structures and features constructed shall follow the Uniform Building Code (UBC) standards as stated in Mitigation Measure 4.7-1. The concrete foundation for the composting facility and constructed pad for self-haul activities shall be designed to resist the effects of expansive soils as described in the UBC. The project will not create substantial direct or indirect risks to life or property with the incorporation of mitigation measures. Therefore, implementation of standard geotechnical engineering practices and adherence to building code requirements would reduce potential impacts from expansive soils to less than significant levels.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3, noted above.

Level of Significance

With implementation of mitigation Measures MM 4.7-1 through MM 4.7-3, impacts would be less than significant.

Impact 4.7-5: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

Consistent with the analysis of the 2009 EIR, existing landfill operation, proposed landfill operations expansion, and the proposed composting and self-haul recycling operation utilize an on-site septic system.

The site is not served by water and sewer infrastructure facilities. The project does not include the expansion or use of additional septic systems or alternative wastewater disposal systems. No impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.7-6: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

No unique paleontological resource or site or unique geologic feature are identified at the site, per the National Park Service's Resource Inventory database. Therefore, the project will not directly or indirectly destroy a unique paleontological feature. No impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-10, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

Development of the project, with implementation of the regulatory requirements discussed above, would result in less than significant impacts related to exposing persons or structures to geologic, soils, or seismic hazards. Although the entire region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Similar to the project, other projects in the area would be required to adhere to the same California and Kern County Building Codes which would reduce the risk to people and property to less than significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements and policies pertaining to building safety and construction would limit the potential for injury or damage to a less than significant level. Therefore, the project, combined with past, present, and other foreseeable development in the area, would not result in a cumulatively significant impact by exposing people or structures to risk related to geologic hazards, soils, and/or seismic conditions. Therefore, the project would result in less than significant cumulative impacts related to geology and soils. However, surficial deposits, namely erosion

and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate erosion impacts. Development of the project site has the potential to contribute to soil erosion and loss of topsoil during construction. These potential impacts would be mitigated through the implementation of the 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.

Although construction activities have the potential to result in erosion on the project site, implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, as well as the required SWPPP and associated BMPs would significantly reduce erosion from the project. Other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts. Specifically, all planned projects in the vicinity of the project are subject to environmental review and would be required to conform to the Kern County General Plan and Building Code and would implement additional mitigation of seismic hazards to ensure soil stability, especially related to seismically induced erosion. With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, above, as well as Mitigation Measures MM 4.9-1 through MM 4.9-3, in Chapter 4.9 *Hydrology*, of this SEIR, which includes proper hazardous waste storage, business plans, and pipelines marking, the project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. As a result, with implementation of mitigation, cumulative impacts related to geology and soils are less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-3, herein, and MM 4.9-1 through MM 4.9-3 as noted in Chapter 4.9, *Hydrology*, in this SEIR.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, herein, and MM 4.9-1 through 4.9-3, cumulative impacts would be less than significant.

Section 4.8

Hazards and Hazardous Materials

4.8.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This section provides a discussion of the potential hazards associated with the project site and an analysis of environmental impacts related to human health. It also addresses fires, landfill fires, landfill gas, hazardous materials and wastes, and the potential for human and environmental exposure to them during their storage and/or use. The potential safety issues related to airports and their associated flight paths are also analyzed.

Issues related to human health other than those related to wildfires, hazardous materials and waste, and airports have been analyzed elsewhere in this document including Section 4.3, “Air Quality”, Section 4.7, “Geology and Soils”, Section 4.9, “Hydrology and Water Quality”, and Section 4.12, “Noise”, and are not repeated in this section.

In addition, this chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to hazards and hazardous materials associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.8.2 Environmental Setting

The environmental setting for hazards and hazardous materials is the same as that described in Chapter 4.8.2 – *Hazards and Hazardous Material, Environmental Setting*, pages 4.8-1 through 4.8-6 – of the 2009 EIR.

Safety measures are used 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 also available at the landfill. The contractor is responsible for the safety at the landfill of his employees and provides his own Health and Safety Plan approved by the Kern County Waste Management Department. The Kern County Waste Management Department has implemented additional safety measures to insure vehicle safety.

Existing Setting

The project site is currently developed with existing landfill activities and recycling operations with ancillary activities such as environmental monitoring, drainage systems, and soil borrow areas. The surrounding area of the site is heavily developed with agricultural land uses. There are five rural residential dwellings – two residences 1.5 miles to the west, one residence 1.25 miles to the south, one residence 1.0 mile to the north, and one residence one-half mile to the west of the project boundary. The previous residential dwelling located 750 feet south of the landfill has been abandoned since the 2009 EIR was certified. A landfill gas collection and control system is in operation, which includes an enclosed flare and several landfill gas extraction and motioning wells. A leachate collection and recovery system is functioning for Modules 2 and 3. The site has a perimeter fence with a locking gate at the entrance. The landfill is also located in an undeveloped area away from any urban development.

The project site is a Class III municipal solid waste disposal facility, and hazardous waste is not accepted at the landfill. The public has limited access to the landfill area where solid waste is handled, sorted, placed and transported. A 2019 Waste Characterization Study found that the concentration of incidental household hazardous waste in the municipal waste stream entering the site during operations is quite low (approximately 0.03%).

There are no major hazard conditions within the project area. The landfill is not on any other State list of hazardous sites per Government Code Section 65962.5.

The project site is located in the administrative boundary of the Garrison City Oil field which is designated as abandoned on the California Division of Oil and Gas and Geothermal Resources (DOGGR) oilfield maps. An abandoned oil pipeline owned by Shell Pipeline Company LP is located outside the northeast corner of the project site and crosses under the buffer area. The existing recycling concrete pad was constructed over the Shell pipeline with permission and oversight from Shell.

Schools

The project is not located within ¼ mile of an existing or proposed school. Maple Elementary School, Seven Day Adventist School, and Richland Elementary School are 3.8 miles east, 6.3 miles southeast, and 7.0 miles east of the project, respectively. The use, storage, or transportation of hazardous materials involving the project remains unlikely in the schools surrounding areas. Richland Elementary school is located on one of the main roads to the landfill, however because hazardous wastes are not accepted for disposal at the landfill, the transportation of hazardous wastes near the school is not anticipated. The transfer of household hazardous waste collected at the site is in compliance with all California Department of Transportation requirements.

Airports

The project is not located within a private or public Airport Land Use Plan area, nor does it fall within any specific airport sphere of influence identified by the Kern County Airport Land Use Compatibility Plan. The nearest airports are the Wasco Airport, located approximately 10 miles northeast of the site, and Minter Field Airport on 201 Aviation Street, located approximately 13.8 miles east of the site.

Hazardous Materials Transportation

The project site is off of Scofield Avenue in Shafter, California and in close proximity to Lerdo Highway. State Highway 43 and State Highway 99 are other major transportation route approximately 8.3 miles and 14.2 miles east of the project site, respectively. Interstate 5 is approximately 8 miles west of the project. The transportation of hazardous materials within the State of California is subject to various federal, state, and local regulations. Regulatory authority is provided in Section 4.8.3, *Regulatory Setting*, below.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the state to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, state, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The project site is not identified as being in an urban wildland fire interface on the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zones Map for Kern County, adopted and used by the Kern County Fire Department. CAL FIRE maps designate the project site as not being in a Very High Fire Hazard Severity Zones in the Local Responsibility Area.

4.8.3 Regulatory Setting

The regulatory setting for hazards and hazardous materials is the same as that described Chapter 4.8.3 – *Hazards and Hazardous Materials, Regulatory Setting*, pages 4.8-6 through 4.8-12 – of the 2009 EIR. A variety of local, state, and federal laws, regulations, and/or policies pertain to protection of public safety from hazardous materials and waste (including radioactive waste) to wildland fires and vectors. These are provided below with the following updates.

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The USEPA's mission is to protect human health and to safeguard the natural environment – air, water, and land – upon which life depends. The USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for using permits and for monitoring and enforcing compliance. Where national standards are not met, the USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the USEPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

Clean Water Act/Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. As part of the CWA, the USEPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “Navigable Waters” of the United States.

Other Regulations

Other federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100 to 149 -- Water Programs, 40 CFR Parts 239 to 259 -- Solid Wastes, and 40 CFR Parts 260 to 279 -- Hazardous Waste. These regulations designate hazardous substances under the CWA; determine the reportable quantity for each substance that is designated as hazardous; and establish quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration’s (OSHA’s) mission is to ensure the safety and health of U.S. workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910.

State

California Code of Regulations Title 27, Environmental Protection, Division 2, Solid Waste

Regulations covering waste disposal site operations specifically are defined in California Code of Regulations (CCR) Title 27, 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; that 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 insure proper compliance with all applicable laws, regulations, permit conditions, and other requirements.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. 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 CCR, 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 DTSC. The act is implemented by regulations contained in Title 26 CCR, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Unified Program is intended to provide relief to businesses in complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The program is implemented at the local government level by CUPAs, established as a function of a local environmental health or fire department. 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.

California Environmental Protection Agency (Cal/EPA)

The Cal/EPA was created in 1991 and unified California’s environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), SWRCB, Regional Water Quality Control Board (RWQCB), Department of Resources Recycling & Recovery (CalRecycle), DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA “umbrella” for the protection of human health and the environment and to ensure the coordinated deployment of state resources. Their mission is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances and Control

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

California Office of Emergency Services (OES)

In order to protect public health and safety, and the environment, the California OES is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans in order to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1—Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2—Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4 - Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for hazardous materials business plans. These plans must include

the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

Hazardous Materials and Waste

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under Title 22 of the California Code of Regulations (CCR), the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity; (2) ignitability; (3) corrosiveness; and (4) reactivity (22 CCR 11, Article 3). A hazardous material is defined as:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (22 CCR 66260.10).

Various forms of hazardous materials can cause death; serious injury; long-lasting health effects; and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials. Relatively minor quantities of hazardous material are currently used at the project site and are mainly associated with building maintenance and office supplies.

California Code of Regulations Title 14, Natural Resources

Title 14 CCR, Division 7, Chapter 3.1, Compostable Materials Handling Operations and Facilities Regulatory Requirements, provides general composting operations standards. Section 17867, General Operating Standards, includes the following minimum standards:

- All handling activities shall be conducted in a manner that minimizes odor impacts so as to not cause a nuisance.
- All handling activities shall be conducted in a manner that minimizes vectors, litter, hazards, nuisances, and noise impacts; and minimizes human contact with, inhalation, ingestion, and transportation of dust, particulates, and pathogenic organisms.

- Random load checks of feedstocks, additives, and amendments for contaminants shall be conducted.
- Contamination of compostable material that has undergone pathogen reduction, pursuant to section 17868.3 of this Chapter, with feedstocks, compost, or wastes that have not undergone pathogen reduction, pursuant to section 17868.3 of this Chapter, or additives shall be prevented.
- The operator shall provide fire prevention, protection and control measures, including, but not limited to, temperature monitoring of covered aerated static piles, adequate water supply for fire suppression, and the isolation of potential ignition sources from combustible materials. Fire lanes shall be provided to allow fire control equipment access to all operation areas.

Title 14 CCR Section 17863 and Section 18227 requires an operator to submit a Report of Composting Site Information that provides, among other items, a description of the composting process and feedstocks to be used, a descriptive statement of the operations conducted at the facility, and a description of the proposed methods used to control leachate, litter, odors, dust, rodents, and insects.

Title 14 CCR 17863.4 requires an operator to submit an Odor Impact Minimization Plan. Odor impact minimization plans shall provide guidance to operation personnel by describing an odor monitoring and data collection protocol for on-site odor sources; a description of meteorological conditions effecting migration of odors and/or transport of odor-causing material off-site; a description of design considerations to be employed in minimizing odor; and a description of operating procedures for minimizing odor, including aeration, moisture management, feedstock quality, drainage controls, pad maintenance, wastewater pond controls, and storage practices.

California Occupational Safety and Health Administration (Cal/OSHA)

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by state regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes.

Local

Kern County General Plan

The project site is within the Kern County General Plan (KCGP), and below are the applicable policies, goals, and implementation measures for hazards and hazardous materials found in the KCGP. The KCGP 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, the Kern County General Plan is incorporated by reference.

Chapter 2. Circulation Element

2.5.4 Transportation of Hazardous Materials

Transportation-related accidents and spills of hazardous materials pose a serious threat to the traveling public and nearby sensitive land uses. Transportation of hazardous materials poses a short-term threat to public health.

Goal

Goal 1 Reduce risk to public health from transportation of hazardous materials.

Policies

Policy 1 The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Policy 2 Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measure

Measure A Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 4. Safety Element

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Implementation Measure

Measure F The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of

potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.9 Hazardous Materials

Policy

Policy 2 Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

Implementation Measure

Measure A Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite 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 State Responsibility Areas (SRAs) within the County. The Kern County Fire Department Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Department of Public Health Services, Environmental Health

The Kern County Public Health Services Department, Environmental Health Division is the CUPA for the project area, which provides site inspections of hazardous materials programs. This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification. The Environmental Health Division is the designated Local Enforcement Agency (LEA), acting on behalf of the CalRecycle.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the Kern County General Plan in 2004 as permitted by Health and Safety Code Section 25135.7(b), and thus must be consistent with all other aspects of the Kern County General Plan.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In

addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in the incorporated Cities, County, and state and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to effect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote onsite source reduction, treatment, and recycling; and to provide for the collection and treatment of hazardous waste from small-quantity generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with federal and state hazardous waste regulations.

Kern County Unincorporated Household Hazardous Waste Element

The Kern County Unincorporated Household Hazardous Waste Element (Hazardous Waste Element) was developed by the Kern County Waste Management Department, Solid Waste Division in response to Assembly Bill 939. The Hazardous Waste Element addresses household hazardous waste and discussed objectives, conditions, alternatives, and implementation of household hazardous waste programs in Kern County. The Hazardous Waste Element details how Kern County intends to reduce, reuse, and recycle large portions of the household hazardous waste stream rather than disposing of such wastes and provides the residents of Kern County with a comprehensive household hazardous waste management plan.

4.8.4 Impacts and Mitigation Measures

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

Methodology

The methodology for hazards and hazardous materials is the same as that described in Section 4.8.4 of the 2009 EIR, with the following updates.

The methodology for determining impacts relating to hazards and hazardous materials focuses on (1) the potentially significant impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment; and (2) proposed project components that could result in environmental contamination.

The methodology for 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 routes during construction or operation of the project.

The methodology for determining impacts relating to wildland fires focuses on the fire severity at the project site and the surrounding areas based on existing state and local maps and land characteristics.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine if a project could potentially have a significant adverse effect related to hazards and hazardous materials. A project could have a significant impact related to hazards and hazardous materials if it would:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c. Emit hazardous emissions or 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 § 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires; or
- h. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the project exceed the following qualitative threshold: The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:
 - i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and
 - ii. Are associated with design, layout, and management of project operations; and
 - iii. Disseminate widely from the property; and
 - iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Project Impacts

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.

Construction

The hazardous materials required for construction of the project would consist primarily of fuels (diesel and gasoline), lubricants, oils, detergents, solvents, degreasers, paints, ethylene glycol (antifreeze), and polymers. Some solid hazardous waste, such as spent welding materials, greases, oily rags, spent batteries, and dried paint, may be generated during construction. Fluids associated with the fueling and servicing of construction equipment may be generated. These materials would be transported to the project site during construction, and any hazardous wastes that are produced as a result of the construction of the project would be collected and transported away from the site in compliance with all legal requirements for storage, transport, and disposal. The disposal and recycling of all hazardous wastes would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. During construction of the project, safety data sheets for all applicable hazardous materials present at the site would be made readily available to onsite construction personnel and routine safety meeting would be conducted. The construction project would implement best management practice to limit releases of hazardous materials and wastes. All non-hazardous recyclable construction debris, including wood, shipping materials, and metals, would be separated when possible for recycling. Non-recyclable construction debris would be disposed of on site at the landfill. Overall, the limited use of hazardous materials during construction would be controlled through compliance with applicable regulations and would result in a less than significant impact.

Operations for Landfill Operations, Composting, and Self-Haul

The proposed increase to landfill operations and ancillary operating functions would only expand existing operations at the landfill and would not require substantive changes in relation to the hazardous materials and wastes already in use at the site. As a Class III municipal solid waste disposal facility, hazardous waste is not accepted for disposal at the landfill. Potential hazardous materials such as petroleum products, pesticides, fertilizer, and other household hazardous products such as paint products, solvents, and cleaning products may inadvertently enter the landfill facility. Hazardous materials inadvertently entering the landfill is governed by the Kern County Public Works Department's Hazardous Waste Exclusion Program Load Check Guide. Operation and maintenance activities associated with increased landfill operations and ancillary functions require relatively little in the way of hazardous materials or wastes, adding a marginal increase to the transportation, use, and disposal of hazardous materials, such as gasoline, diesel, oils, and solvents. Existing heavy equipment units will be used for the increase to landfill operations, with no new equipment proposed for use. All hazardous materials and wastes used would be stored onsite and in designated areas in accordance with existing procedures.

The proposed composting facility requires relatively little in the proposed use, disposal, and transportation of hazardous materials or wastes. The project includes the expansion of existing operations at the facility involving the processing, handling, and storage of existing and proposed feedstocks. Existing equipment, which utilize small amounts of gasoline, diesel, oils, and solvents, would continue. Additional equipment

needed for the composting operations includes a standard skid steer loader, a standard loader, and a horizontal wood grinder. These equipment units would also utilize small amounts of gasoline, diesel, oils, and solvents for operations and maintenance. The proposed composting facility would not require substantive changes in relationship to the hazardous materials and wastes already in use at the site. Any hazardous materials that would be used would be stored onsite and in designated areas in accordance with existing procedures. The project does not propose the use or storage of amendments, additives, or coloring. Under existing conditions and provisions, hazardous waste is not accepted in the diversion area of the landfill. Hazardous materials inadvertently entering the proposed composting area is subject to random load checking as detailed in the Hazardous Waste Exclusion Program Load Check Guide. Hazardous wastes, such as petroleum products, pesticides, fertilizer, and other household hazardous products such as paint products, solvents, and cleaning products, may be found during load check procedures and handled accordingly. All hazardous materials and wastes used would be stored onsite and in designated areas in accordance with existing procedures.

The proposed self-haul operation requires relatively little in terms of use, disposal, and transportation of hazardous materials or wastes. No new equipment is proposed that would require the use of fuels, solvents, or oils. Existing equipment owned, operated, and maintained would be utilized for the processing and movement of separated diverted materials. Operations would adhere to existing provisions to exclude the receipt of hazardous wastes and the Hazardous Waste Exclusion Program Load Check Guide.

Existing operations already include periodic inspection as required by Title 14 and Title 27 CCR. The proposed project would continue to adhere to Title 14 and Title 27 requirements as overseen by the Kern County Public Health Services Department, Environmental Health Services Division, acting as the LEA, as part of the facility's solid waste facility permit.

In addition, existing operations already require that all hazardous materials and waste are handled, stored, and disposed of in accordance with a Hazardous Materials Business Plan. As required under applicable local, State and Federal regulations, the project proponent shall update the existing Hazardous Materials Business Plan and associated Spill Prevention Control and Countermeasure Plan to reflect changes to existing operations with the project and submit to the Kern County Public Health Services Department, Environmental Health Services Division, Hazardous Materials Section for review and approval.

Through adherence to existing regulations and the implementation of Mitigation Measure MM 4.8-1 and MM 4.8-2, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be reduced to less than significant.

Mitigation Measures

- MM 4.8-1** All hazardous wastes shall be stored and properly managed in accordance with the approved Hazardous Waste Exclusion Program Load Check Guide and state and local regulations until transported for proper disposal. Hazardous materials shall be managed and stored properly. Training shall be provided to all personnel involved in the handling of hazardous materials and wastes.
- MM 4.8-2** Prior to the issuance of grading or building permits, the project proponent shall update the existing Hazardous Materials Business Plan to reflect changes to existing operations with the project and submit it to the Kern County Public Health Services Department, Environmental Health Division for review and approval.

- a. The Hazardous Materials Business Plan shall:
 1. Delineate hazardous material and hazardous waste storage areas;
 2. Describe proper handling, storage, transport, and disposal techniques;
 3. Describe methods to be used to avoid spills and minimize impacts in the event of a spill;
 4. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction;
 5. Establish public and agency notification procedures for spills and other emergencies including fires; and
 6. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.
- b. The project proponent shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.
- c. A copy of the approved Hazardous Materials Business Plan shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance

With implementation of Mitigation Measures MM 4.8-1 and MM 4.8-2, 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.

Construction

The project site is located in the administrative boundary of the Garrison City Oil field which is designated as abandoned on the California Division of Oil and Gas and Geothermal Resources (DOGGR) oilfield maps. Consistent with the 2009 EIR, there is one plugged and abandoned well within the project boundary; however, the abandoned and plugged well is located in the southwestern portion of the landfill permitted facility boundary and is not impacted by the project.

An abandoned oil pipeline owned by Shell Pipeline Company LP (Shell) is on the north and northeast areas of the project site and crosses under the existing buffer area. The existing recycling concrete pad was constructed over the Shell pipeline with permission and oversight from Shell. The 14" Bakersfield Crude pipeline was purged in 2005 with nitrogen. It was officially abandoned with the State of California Fire Marshal in 2018. The project proponent has corresponded with Shell regarding the construction of the proposed project. Construction over the abandoned pipeline is not an issue because the pipeline is not in an easement. In addition, potholing prior to construction, if needed, shall be arranged by the project proponent and Shell. Implementation of Mitigation Measure 4.8-3 would minimize or reduce potential impacts to a less than significant level. As a result, construction and development of the proposed project over the

abandoned pipeline is unlikely to expose employees or construction workers to the dangers associated with operating a facility above and near the abandoned oil pipeline.

Potential impacts that may result from construction of the project include the accidental release of materials, such as petroleum products including lubricants, fuels, and solvents. Through adherence to regulations and standard protocols and implementation of Mitigation Measures 4.8-1 through 4.8-4, impacts would reduce to a less than significant level.

Operation

As presented in great detail in the Impact 4.8-1 section above, the proposed project and various operations would generate a marginal increase in terms of hazardous materials and wastes which would result in a marginal potential for release of these materials into the environment. The proposed project would continue to include the use of project proponent owned and operated heavy equipment and machinery that require refueling and servicing. However, heavy duty trucks and vehicles delivering feedstocks to the facility or delivering finished compost away from the facility do not utilize fueling services. The onsite refueling activities would be covered under the Hazardous Materials Business Plan and would include measures to ensure that should any inadvertent release occur, there would be spill prevention and clean up supplies to limit the extent of any release as well as measures to minimize any exposure to workers or the public.

The expansion of existing landfill operations and of the proposed composting facility would accept a variety of non-hazardous feedstocks such as green materials, food wastes, and manure. These materials would continue to adhere to Title 14 CCR to ensure that the materials are not hazardous and as a result would be unlikely to be at risk of exposure due to upset and accident conditions.

Therefore, adherence to applicable local, State, and federal regulations along with standard protocols and implementation of Mitigation Measure MM 4.8-1 through MM 4.8-4 would minimize or reduce potential exposure from upset and accident conditions to a less than significant level.

Mitigation Measures

MM 4.8-3 The portion of the landfill must have all pipelines marked and potholed prior to construction. The statement “48 hours prior to commencement of construction activities, contact to arrange for field markings of Shell’s facilities” will be incorporated on final construction drawings. This notification is in addition to notification through Underground Service Alert.

MM 4.8-4 The project proponent shall continuously comply with the following:

- a. The construction contractor or project personnel shall use herbicides that are approved for use in California, and are appropriate for application adjacent to natural vegetation areas (i.e. non-agricultural use). Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use.
- b. Herbicides shall be mixed and applied in conformance with the manufacturer’s directions.
- c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data

sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.

- d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.
- e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

Level of Significance

With implementation of Mitigation Measures MM 4.8-1 through MM 4.8-4, impacts would be less than significant.

Impact 4.8-3: The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school.

The project is not located within ¼ mile of an existing or proposed school. The nearest schools are Maple Elementary School, Seven Day Adventist School, and Richland Elementary School are 3.8 miles east, 6.3 miles southeast, and 7.0 miles east of the project, respectively. Therefore, there would be no impacts related to hazardous emissions within ¼ mile of an existing or proposed school.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impacts would occur.

Impact 4.8-4: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

A review of available environmental databases showed that the project site is not included as a hazardous materials site pursuant to Government Code Section 65962.5 (DTSC, 2017; Water Board, 2017; and CalRecycle 2017). The project proposed an expansion of landfill operations and new composting operations. Although ground disturbance is required for the construction of the composting facility, no known hazards exists in the project impact area. Therefore, the potential to create a significant hazard to the public or the environment would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.8-5: The project would for a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

The project is not located within a private or public Airport Land Use Plan area, nor does it fall within any specific airport sphere of influence identified by the Kern County Airport Land Use Compatibility Plan. The nearest airports are the Wasco Airport, located approximately 10 miles northeast of the site, and Minter Field Airport on 201 Aviation Street, located approximately 13.8 miles east of the site. Considering the characteristics of the proposed activities as an extension of existing activities, there would be no elements of the project that could adversely affect any air traffic operations. Therefore, the potential to create a significant hazard to the public residing or working in the area would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.8-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

All projects must be planned with circulation routes that will ensure safe access for fire and other emergency equipment. Circulation routes must include secondary means of ingress and egress, consistent with topography, to meet emergency needs. The general circulation routes presently provided throughout Kern County by federal-, state-, and county-maintained road systems are adequate for access and evacuation. State and county laws regulate standards for new public circulation routes. Private circulation routes not maintained by the state or county are subject to the standards set forth in Kern County Ordinance G-1832.

As discussed in Section 3, *Project Description*, in this draft SEIR, the project proposes to request land use entitlements necessary to facilitate the operation of a covered aerated static pile composting facility and expansion of self-haul transfer and processing activities within the current landfill permitted facility boundary. The project includes the increase to the permitted facility boundary and hours for the receipt of waste and facility operating hours.

This area is predominantly agricultural in nature, with existing landfilling and diversion operations at the project site. See Figure 4.1-1 for the location of residential farm dwellings. These dwellings are scattered throughout the area with no concentration of sensitive receptors located near or around the project site. The nearest residential dwelling, used in conjunction with agricultural activities, is one half (1/2) mile west of the proposed project site, located off County owned property.

The Kern County Fire Department, Shafter Fire Station No. 32, is located at 325 Sunset Street, Shafter, California about eight miles from the proposed project location. The station can respond to any emergency, including large fires, in approximately ten to twelve minutes. The Kern County Fire Department, Wasco

Fire Station No. 31, is located at 2424 7th Street, Wasco, California about 10 miles from the proposed project location. The station can also respond to any emergency, in approximately twelve to fourteen minutes.

The project site has an internal and existing emergency response plan in place related to landfill activities and diversions operations. Contractor and County personnel have several communication options. The main communication device is a radio network. This system links the gate attendant, diversion area staff, and the contractor staff. The system is also a link for emergency communications with the project proponent's main office, the Kern County Communication Center, or 9-1-1. A landline telephone is installed at the gatehouse. Additionally, designated Department and contractor staff are equipped with cell phones. All stockpiles and materials are stored, handled, and managed in a manner to prevent fire hazards and public nuisances.

All contractor and County-owned equipment are furnished with fire extinguishers and additional fire extinguishers are available and located throughout the site, including in the gatehouse and the recycling area office. Firebreaks are constructed inside and around the landfill. The contractor periodically removes dust and debris from the undercarriages and engine compartments of landfill equipment to reduce associated fire hazards. The project site does not accept hot ash or burning waste at the facility. If burning material is identified in the landfill area, soil and water is applied to suppress the fire until no smoldering is evident and the fire is extinguished. The burned material will then be buried, covered, and compacted. If a small, containable fire occurs during working hours, the contractor may use available safe means (fire extinguishers, water, soil, heavy equipment, etc.) to control the fire and notify County staff. The contractor may extinguish larger fires with soil, heavy equipment, and water depending on the safety of the situation, the nature of the fire, and the availability of equipment and labor. In the event of a fire that the contractor cannot contain, the contractor will contact 9-1-1, and contact County staff as soon as practical.

Evacuation from the project site, should that be necessary, is through the front gates of the project site which allows for the safest exit from the project site onto Scofield Avenue, a paved and County maintained roadway. The project site has an alternate exit along the southern edge of the permitted facility boundary. Existing ingress and egress methods will be utilized as part of project implementation. Existing roadways and traffic patterns are sufficient to manage activities related to composting operations and the increase of hours for the receipt of waste and ancillary facility hours.

The project is not located along an identified emergency evacuation route. There will be no impacts to adopted emergency response or evacuation plans for response agencies. However, the emergency response and evacuation plan for the project site itself could be affected by project implementation due to the operation of the composting facility. Therefore, as a result of the proposed project, impacts to adopted emergency response or evacuation plans would be less than significant with implementation of Mitigation Measures MM 4.8-1 through MM 4.8-4, as identified above, and MM 4.8-5, described below.

Mitigation Measures

Implement Mitigation Measures 4.8-1 through MM 4.8-4; and

MM 4.8-5: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation and decommissioning.

The project proponent shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved

Fire Safety Plan shall be submitted to the Kern County Planning and Natural Resources Department. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:

- a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
- b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.
- c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
- d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
- e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.
- f. The project proponent shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. With implementation of Mitigation Measure MM 4.8-5, impacts would be less than significant.

Level of Significance

With implementation of MM 4.8-1 through MM 4.8-5, 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.

The project is not in an area of "Federal Responsibility" and is not identified as being a wildland fire interface on the California Department of Forestry and Fire Protection Fire Hazard Severity Zones Map for Kern County. The project is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan related to wildland fires. Existing infrastructure includes two existing County-owned water systems on site – 1) one well produces 60 gallons per minute for the 10,000-gallon water tank; and 2) one well equipped with a pump rate to produce 500 gallons per minute feeding a steel tank with a capacity of 63,400 gallons. Maintenance related to existing and proposed infrastructure and equipment will follow standard manufacturer guidelines so as to not exacerbate the risk of fire. Existing equipment are furnished with fire extinguishers and available water supply minimized the risk of fire impacts to the environment. Therefore, no impacts to people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires will occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impact would occur.

Impact 4.8-8: The project would during implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste?

The landfill and diversion operations are existing operations at the project site. The site is permitted to receive municipal solid waste, agricultural waste, construction and demolition waste, non-friable asbestos, industrial waste, compostable materials, dead animals, and inert debris for disposal and recycling. Materials designated for diversion include organic materials such as wood waste (branches and lumber), grass, leaves, manure, agricultural waste, food waste, vegetative food waste, and other items as described in Chapter 3, *Project Description*. Decomposing waste can potentially attract animals, birds, and insects seeking food and shelter. However, landfill operations involve very intensive heavy equipment spreading and compacting activity. This functions to reduce the approach and feeding of most animals. Operations of the landfill such as refuse compaction, application of daily cover (either through the use of soils or geosynthetic tarps), and minimization of the working disposal area do not provide a habitat suitable for propagation or survival of rodents and flies.

Storage, handling, and stockpiling activities for organic and agricultural wastes associated with diversion programs are conducted in a planned and controlled manner to minimize the generation of vector harborage and public nuisances. Feedstocks are stockpiled in designated areas and then processed through various machinery to either remove contamination or processed for size reduction, which reduces the potential for the generation of vectors and is a natural deterrent to flies and the development of fly larvae.

Proposed expansion of landfill operations and ancillary functions would not generate vectors beyond what conditions exist at this time. Refuse compaction, refuse spreading, daily cover application, and working area reduction would apply to proposed project operations. Landfill personnel frequently inspect the site for signs of vector activity, as well as the Kern County Department of Public Health Services, Environmental Health Division for compliance with Title 27 CCR. Therefore, result will be less than significant.

Proposed composting facilities, in general, are not typically attractants to birds, rodents, or mosquitoes. However, the landfill currently accepts feedstocks in the diversion program area that have the potential to generate vectors. The proposed composting operation would include agricultural waste, namely manure and agricultural materials as defined in Title 14 CCR (see Chapter 3, Section 3.7, *Proposed Feedstocks and Processing* for additional information), and similarly have a potential to generate vectors such as flies. The pre-grinding processes, high temperatures, high turnover of accepted materials, and immediate placement of the feedstocks into stockpiles or the bunkers of the covered aeration static pile system is a natural deterrent to flies.

The project's existing operations already has a Report of Disposal Site Information (RDSI) and Report of Composting Site Information (RCSI) that includes various vector control measures used to manage vectors resulting from landfill operations and diversion programs. Each of these documents would be required to be updated per Title 14 and Title 27 CCR regulations to demonstrate the proposed operational changes and new control measures associated with composting activities.

With implementation of this routine landfill and diversion program operations, as described above, and compliance with Title 14 and Title 27 regulations, the potential to generate vectors from the proposed project would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-11, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope of impacts associated with hazards and hazardous materials generally encompasses the project site and a ¼ mile radius area around the project sites. Hazardous materials incidents and risks tend to be site specific and localized in nature since incidents and risks tend to be related to onsite existing hazardous conditions or hazards caused by a project's construction or operation. A geographic scope of a ¼ mile radius area also coincides with the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above.

The proposed project would not handle any substantive quantities of hazardous materials such that there would be negligible emissions associated with the project elements. Impacts regarding accident or upset conditions of hazardous materials would be localized due to the quantities involved at the site as well as those of the cumulative projects within a ¼ mile radius. Unauthorized releases could occur but unless multiple events would occur simultaneously, spill incidents are localized, contained, and addressed through existing regulatory requirements and response. A hazardous material release during project construction or operation through upset or accident conditions including the use and transport of petroleum-based products, solvents, fuels, and oils to and from the project site would tend to be isolated and localized in geographic extent. The distance of the other projects considered in the cumulative analysis is such that an accidental release of hazardous materials at the project site would be unlikely to combine with other cumulative projects due to the low probability of concurrent incidents to occur. Therefore, the project would not contribute to cumulative impacts from accidental releases of hazardous materials.

Vector control, manure management, and odor control plans are required by regulation at dairies and other large animal facilities per the Kern County Public Health Services Department. These projects are also required to mitigate their impacts similar to what is required under Title 27 CCR, of a municipal landfill operation, and Title 14, of a composting facility.

Conformance with existing state and local regulations, incorporation of project safety design features, and the implementation of Mitigation Measures 4.8-1 through 4.8-5 identified above, would further reduce cumulative impacts. In addition, implementation of appropriate safety measures during construction of the

project, as well as other cumulative projects, would reduce the impact to a level that would not contribute to cumulative effects. Given the minimal risks of hazards and hazardous materials at the project site, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

Mitigation Measures

Implement Mitigation Measures MM 4.8-1 through MM 4.8-5.

Level of Significance

With implementation of Mitigation Measures MM 4.8-1 through MM 4.8-5, cumulative impacts would be less than significant.

Section 4.9

Hydrology and Water Quality

4.9.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to hydrology and water quality associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

The project proponent has a well sharing agreement with Semitropic Water Storage District (Semitropic) Appendix C of this SEIR, allowing the use of 320 acre-feet per year from the on-site and existing well. The well sharing agreement provides for capacity rights. The project is also governed by Semitropic’s Intermittent Water Service Agreement (IWSA). The IWSA provides for non-contract water use. Each of these agreements govern delivery of water to the project’s parcel. As determined by the Lead Agency, a Water Supply Assessment is not required for the project as these agreements are sufficient to provide water supply needs for the proposed project.

4.9.2 Environmental Setting

The environmental setting for hydrology and water quality is the same as that described in Chapter 4.9.2 – *Hydrology and Water Quality, Environmental Setting*, pages 4.9-1 through 4.9-11 – of the 2009 EIR.

As described in Chapter 3, *Project Description*, the project site is an existing solid waste municipal landfill with associated ancillary landfill activities and diversion program operations. Buffer lands are established to protect the landfill from encroachment of sensitive and incompatible uses. Ancillary activities and diversion programs operate within the buffer lands of the facility. The current landfilling activities and diversion programs operate under an existing conditional use permit (CUP) No. 1 Map No. 78. Operations within the currently approved CUP boundary encompass 357.48 acres of which 135 acres are permitted for disposal. The proposed modifications to the CUP would include an additional 50.21 acres included into the Solid Waste Facility Permit as permitted facility boundary and into the CUP as solid waste disposal facility buffer increasing the acreage of the facility to 401.69 acres.

Regional Setting

The project site is located in the southern San Joaquin Basin (ECORP, 2018), which is bordered on the east by the Sierra Nevada Mountains, on the west by the Diablo and Temblor Mountain Ranges, and on the

south by the San Emigdio and Tehachapi Mountains. The southern San Joaquin Basin is within the Great Valley geomorphic province of California. The San Joaquin Basin is a structural trough filled with 10,000 to 30,000 feet of marine and non-marine sediments originating from the surrounding mountain ranges during the Mesozoic and Cenozoic eras. The regional geology of the south-central portion of the San Joaquin Valley is characterized by an asymmetrical structural trough which has received several thousand feet of sedimentation from source rocks in the Sierra Nevada to the east and the Coast Ranges to the west. Unconsolidated marine sediments were deposited over sedimentary rocks between the Cretaceous and Tertiary Periods and were subsequently overlain by late Pliocene-Pleistocene Tulare Formation and Quaternary alluvium. Local depositional patterns were influenced by the emergence of structures such as the Semitropic Ridge. The predominant soils beneath the waste management facility are the Milham sandy loam; which is a deep, well-drained soil developed on alluvial fans, plains, and low terraces. Milham sandy loam is typically 35 to 60 percent sand. Laterally extensive sandy soils dominate below depths of 50 to 60 feet.

Tulare Lake Basin

The Tulare Lake Basin (Basin) encompasses approximately 10.5 million acres, of which approximately 3.25 million acres are in federal ownership. Kings Canyon and Sequoia National Parks and substantial portions of Sierra, Sequoia, Inyo, and Los Padres National Forests are included in the Basin. Valley floor lands (i.e., those having a land slope of less than 200 feet per mile) make up slightly less than one-half of the total basin land area. The maximum length and width of the Basin are about 170 miles and 140 miles, respectively. The valley floor is approximately 40 miles in width near its southern end, widening to a maximum of 90 miles near the Kaweah River.

The Water Quality Control Plan for the Tulare Lake Basin, Third Edition, revised May 2018 (RWQCB, 2018), designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the basin and incorporates, by reference, plans and policies of the State Water Board. The designated beneficial uses of valley floor waters, as specified in the basin plan, are agricultural supply; industrial service and process supply; water contact and non-contact water recreation; warm freshwater habitat; preservation of rare, threatened and endangered species; and groundwater recharge amongst other beneficial uses. The site is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 255. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 255, are municipal and domestic water supply, agricultural supply, industrial service supply, and wildlife habitat.

Tulare-Buena Vista Lakes Hydrologic Unit (No. 18030012)

The project site is located in the Tulare-Buena Vista Lakes Hydrologic Unit (HU) at the southern tip of California's Central Valley, under the purview of the Central Valley Regional Water Quality Control Board. The encompassing Tulare Lake Basin stretches into the Sierra Nevada and encompasses about 16,400 square miles, with the lowland area that is included in the HU encompassing about 8,400 square miles. Historically, during wet periods, much of the land area in the HU would become inundated, and in some cases excess water from the resulting Tulare Lake complex would overtop, discharging into the San Joaquin River.

The natural hydrology of the HU has been substantially modified since roughly 1850, in order to provide water supply for irrigation, reclaim land, and provide flood control benefits. Natural river channels and

sloughs were replaced with canals that were used to divert water from major rivers in the region and flows from the Kings River were redirected into the San Joaquin River. The 20th century saw increased channelization within the HU, supporting ongoing flood control and land reclamation, ultimately containing flood flows to a series of dedicated drainage basins. The state and federal aqueducts facilitate water transfers and exchanges in the HU, including support for groundwater banking activities.

Climate & Precipitation

The climate of the Tulare Basin is characterized by hot, dry summers and mild winters with relatively low annual precipitation. The southern San Joaquin Valley, in which the project site is located, has an arid climate characterized by low rainfall, mild winters, and hot, dry summers. Low relative humidity during the summer months contributes to extreme variations in day and night temperatures. The high temperatures in summer run in the 100-110 degrees Fahrenheit (F) range, with the low temperatures in the 60-80 degrees F range. Winters are mild and arid, yet fairly humid. December and January are characterized by frequent fog, mostly nocturnal, known as Tule fog. Temperatures during the December and January winter months' average in the mid-40s degrees F range. The mean annual temperature recorded at the National Weather Service (NWS) station at Meadows Field Airport in Bakersfield, a weather station located approximately 20 miles west of the project site, but which can be considered typical of the Tulare Basin including the project area, is 65.2 degrees F, with a record high of 115 degrees F in July, 1950 and a record low of 19 degrees F in December, 1990.

The project site receives an approximate average of six inches of precipitation per year with 90 percent of the precipitation occurring between October and April. The site is in a region that experiences historically minimal precipitation. The mean pan evaporation is 59.2 inches per year (CIMIS, 2020). The nearest climatological monitoring station which records evaporation data is located in Shafter, California. The maximum expected 100-year, 24-hour precipitation used as the design storm event is approximately 2.30 inches in the vicinity of the project site as extracted from data from the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 (NOAA, 2020).

TABLE 4.9-1: AVERAGE MONTHLY TEMPERATURES AND PRECIPITATION FOR THE TULARE BASIN, KERN COUNTY

Station	Elevation	Average Maximum Temperature	Average Minimum Temperature	Average Annual Precipitation
Bakersfield 5 NW, CA (Coop ID 040444)	470 ft	77.7°F	52.9°F	6.06 in/yr
Sources: Western Regional Climate Center, 2020a (https://wrcc.dri.edu/Climate/comp_table_show.php?stype=temp_means); WRCC, 2020b, (https://wrcc.dri.edu/Climate/comp_table_show.php?stype=ppt_means).				

Local Hydrology

Surface Hydrology and Drainage

Other than the landfill, with the top of the existing fill surface currently above natural grade at 384 feet above mean sea level (MSL), the project site is predominantly and relatively flat and gently sloping to the north and the west. Surface elevations within a mile radius of the site area range from 300 feet above MSL to 290 feet above MSL. All drainage structures are designed to prevent erosion and ponding and to minimize infiltration in applicable areas. On-site drainage channels currently collect storm water runoff from the landfill and diversion areas and release it into surface water control basins located in the southwest portion of the site and directly north and northwest of the site. The design also includes corrugated down drains, conveyance pipes, ditches, and culverts as part of the water collection system to manage and control the on-site surface water. Storm water on the landfill surface will be managed by drainage berms and ditches equipped with appropriate erosion control measures as needed and contained on site. The site is operated in accordance with the project's Waste Discharge Requirements (WDR) Order No. R5-2012-0011, which requires the facility to have an onsite stormwater retention pond designed to wholly contain the 100 year, 24-hour storm event. Consequently, the facility is engineered and designed to withstand run-on and contain run-off associated with a 100 year, 24-hour storm event.

All drainage and erosion control systems and improvements are designed in compliance with Title 27. With the issuance of an Approved Jurisdictional Determination, the United States Army Corps of Engineers determined that the Shafter-Wasco Recycling & Sanitary Landfill does not contain waters of the United States. Therefore, the landfill is not subject to National Pollutant Discharge Elimination System (NPDES) requirements. The Department submitted a Notice of Termination (NOT) to the Water Board. The Water Board approved the NOT on March 2, 2015. The Department has established and implemented Best Management Practices for the landfill to control and manage stormwater at the site. All drainage structures are designed to minimize erosion, ponding and infiltration in applicable areas. There are no natural streams or other natural waterways located on site or in the immediate vicinity of the project area.

Floodplains

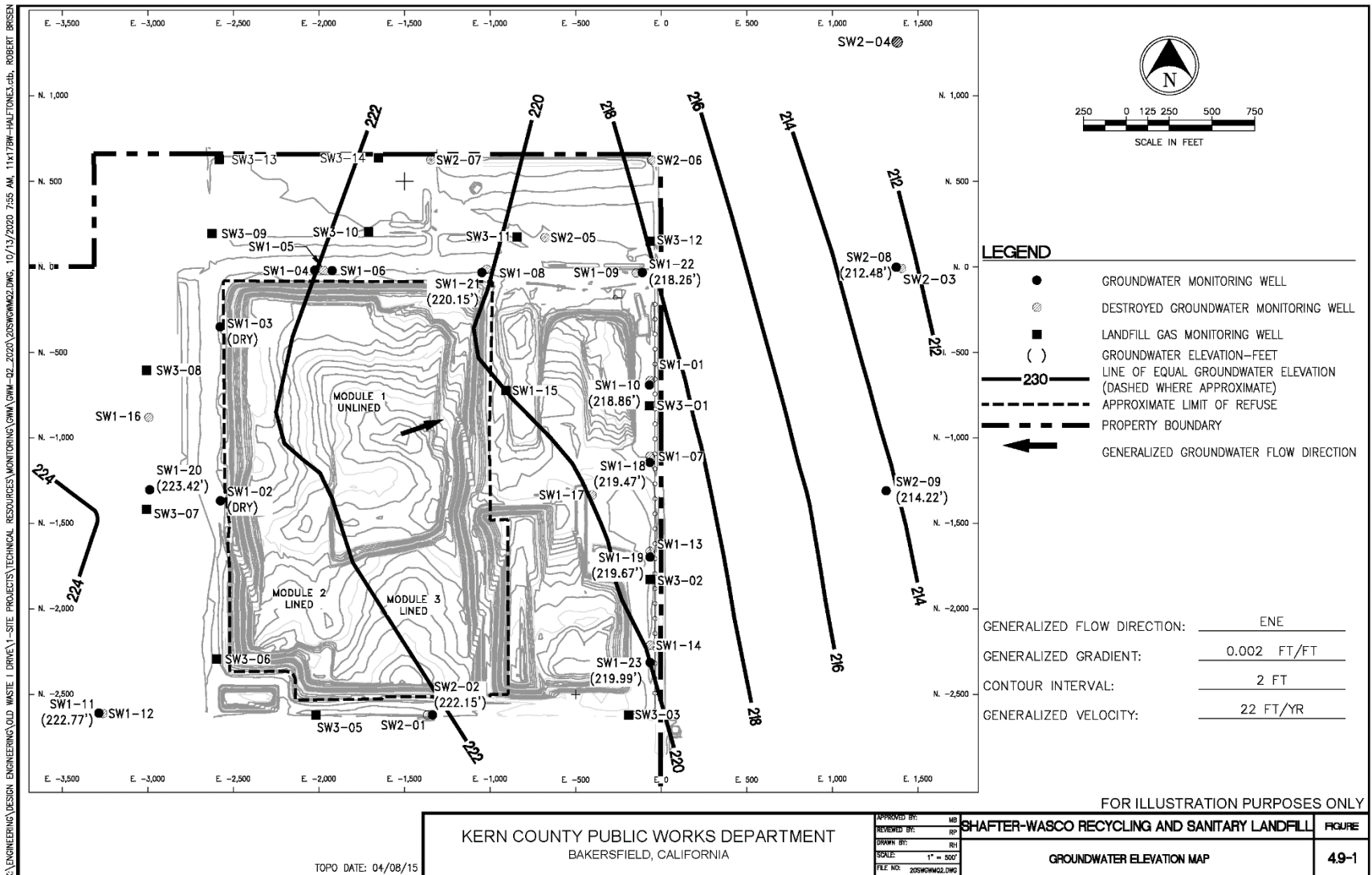
The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs). A review of the map index sheets (Number 06029C1250E) for FEMA's FIRMs for Kern County Unincorporated Areas indicate that no map (i.e., panel) has been prepared for the area in which the project site lies since, according to FEMA, no special flood hazard areas exist in this panel (FEMA, 2020). According the FEMA, the flood map for this location has a status of "not printed." Therefore, the project site is located outside of the 100-year flood zones.

Groundwater Resources & Groundwater Quality

Water bearing zones beneath the site consist of confined, unconfined, and perched aquifers. In September 2018, the unconfined groundwater surface was measured in the landfill water well at a depth of 342 feet below grade surface. Current depth to the highest perched aquifer is approximately 70 to 85 feet below grade surface. Based on measurements made during the project proponent groundwater below the project site generally flows in an east/northeasterly direction, with a generalized gradient of 0.003 to 0.002 feet per foot. The predominant flow direction is to the east-northeast. The generalized velocity is 22 feet per year.

The project site has an existing groundwater monitoring system, consisting of background, compliance, and evaluation monitoring program wells, to monitor the groundwater quality. See **Figure 4.9-1, *Groundwater Elevation Map***, below, for the existing environmental monitoring system and generalized groundwater flow direction. The unconfined aquifer is replenished by the surrounding Temblor, Sierra Nevada, and San Emigdio mountains, the Kern River, the Kern Water Bank, and recharge from precipitation and irrigation. Accordingly, there is a continuous base flow recharge of the unconfined aquifer that will provide water supplies during normal, dry, and multiple dry years.

Water supply is provided by Semitropic within the boundary of the Kern County Subbasin and located within the Tulare Lake Region of the Central Valley. Beneficial users serviced within the boundaries consist of agricultural, municipal and domestic, industrial, and environmental. Groundwater is used in this region to support agricultural, production, and industrial practices that support the economic viability of local communities.



Existing water supply needs at the project site water is provided from an onsite well and is used for dust control measures, firefighting, and facility needs. There are two existing County-owned water systems on site. One well produces 60 gallons per minute for the 10,000-gallon water tank. The other water supply has a pump rated to produce 500 gallons per minute and a steel tank with a capacity of 63,400 gallons. The tank is used to fill water trucks using one of two 400-gpm pumps. Water from these wells are not potable. The project proponent has a well sharing agreement with Semitropic allowing the use of 320 acre-feet per year from the on-site and existing well. The well sharing agreement provides for capacity rights. The project is also governed by Semitropic's Intermittent Water Service Agreement (IWSA). The IWSA provides for non-contract water use. Each of these agreements govern delivery of water to the project's parcel.

Groundwater quality at the project site has been monitored since 1989 when the first six monitoring wells were installed. The current groundwater monitoring system at the project site consists of five background wells, six compliance wells, and two corrective action plan wells. All the operating groundwater monitoring wells are completed in the uppermost aquifer (perched aquifer) and have dedicated pumps for purging and sampling the groundwater. The sampling and analytical procedures for the monitoring wells are designed to ensure that the monitoring results provide a reliable indication of groundwater quality at all monitoring points, including the background monitoring points. Groundwater and vadose zone monitoring are conducted by the project proponent to evaluate the performance of facility operation and to identify potential threats to human health and the environment. The vadose zone monitoring system at the project site consists of three pan lysimeters underlying the leachate collection systems of Modules 2 and 3.

In addition, the project proponent is required to monitor for the presence and movement of landfill gas (LFG) and take necessary action to control such gas at landfills. This requirement is completed through the operation of the project site's gas control and monitoring system with permanent LFG monitoring wells. Each permanent well contains multi-level probes, and a series of multi-level LFG perimeter wells are located around the periphery of the landfill. The depth of the deepest probe is equal to the depth of adjacent waste.

An LFG system was installed in January of 2005. The system includes LFG collection and treatment. The primary objectives of the LFG control system are to control surface and subsurface migration of LFG from the landfill and reduce the potential migration of LFG to groundwater. The LFG collection system consists of vertical extraction wells located in Modules 1 and 2, and a series of horizontal extraction lines installed in Module 3. The wells and lines are connected to header pipes leading to a ten million BTU per hour enclosed flare. The system includes a condensate collection system. The landfill gas flare station generally consists of a blower, air compressor, air dryer separator, control panel, and an enclosed flare. The condensate tank and electrical panel are also located within the fenced enclosure. The flare is designed to achieve a destruction efficiency of 98 percent for non-methane organic compounds. Currently, the flare operates continuously and is only shut down for maintenance.

The groundwater samples collected during this monitoring period were analyzed for the concentrations of general chemistry monitoring parameter constituents. The general chemistry monitoring parameters include alkalinity (as CaCO_3), bicarbonate (as HCO_3), calcium, chloride, hardness (as CaCO_3), magnesium, nitrogen (nitrate as N), potassium, sodium, sulfate, total anions, total cations, and total dissolved solids (TDS). The concentrations of the general chemistry monitoring parameters are consistent with historical data with no indication of significant changes in the general chemistry of the water beneath the project site in this monitoring period.

Review of water quality data indicates a decrease in the types and concentrations of volatile organic compounds (VOCs) in several groundwater monitoring wells at the project site. The occurrence of these VOCs is related to landfill gas migration from the closed, unlined Module 1, and the shift in the groundwater gradient toward the east/northeast. Concentrations of the most commonly detected VOCs (Freon 12, PCE, TCE) display decreasing or stable concentrations over the past decade. Detections of the daughter products of sequential reductive dechlorination processes (TCE, cis-1,2-dichloroethene) also indicate that the biological, chemical, and physical processes of natural attenuation are successfully reducing the concentrations of VOCs in monitoring wells at the project site. Based on the *2019 Annual Monitoring Summary Report* (KCPWD, 2019) and the monitoring data, natural attenuation is continuing to occur at the site with no evidence of a new release from the project site with no need for additional corrective action measures.

4.9.3 Regulatory Setting

The regulatory setting for hydrology and water quality is the same as that described in Chapter 4.9.3 – *Hydrology and Water Quality, Regulatory Setting*, pages 4.9-11 through 4.9-16 – of the 2009 EIR, with the following updates.

Federal

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint – source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Board (RWQCBs). The project site is within the Central Valley RWQCB. Projects that disturb one or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.

Section 402, National Pollutant Discharge Elimination System (NPDES). Section 402 of the Clean Water Act authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Storm Water Permit (Water Quality Order 2009-0009-DWQ), referred to as the “General Construction Permit.” NPDES regulations are administered by the RWQCB. 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.

Section 404, Discharge of Dredged or Fill Materials. Section 404 of the Clean Water Act establishes programs to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. For purposes of Section 404 of the CWA, the limits of non-tidal waters extend to the Ordinary High Water (OHW) line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. When an application for a Section 404 permit is made the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A Water Quality Certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for Water Quality Certification (or waiver thereof) from the RWQCB. Project activities would adhere to state and federal water quality standards and would be in compliance with Sections 401 and 404 of the CWA.

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards. Given that the project is neither a residential development nor located within a 100-year floodplain, these requirements do not bear on the project. To facilitate identifying areas with flood potential, FEMA has developed FIRMs that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The California DWR 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)

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. The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Central Valley RWQCB.

California 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 Regional RWQCB.

Water Quality Resources Control Board – General Waste Discharge Requirements for Composting Operations

On August 4, 2015, the State Water Resources Control Board (State Water Board) certified the associated Environmental Impact Report and adopted General Waste Discharge Requirements for Composting Operations, Order WQ 2015-0121- DWQ (Composting General Order). The Composting General Order addresses water quality protection at composting facilities. The Composting General Order was developed to efficiently support the diversion of organic material from landfills to composting operations while providing requirements to protect water quality. The Composting General Order was adopted to provide measures to protect water quality while streamlining the permitting process to support diversion of organic materials away from landfills to composting operations. Compostable materials may contain nutrients, metals, salts, pathogens, and oxygen-reducing compounds that can degrade water quality if allowed to migrate into groundwater or surface water. Compliance with design specifications and associated performance requirements included in the General Order is determined to be protective of water quality. The terms and conditions of the General Order are designed to minimize groundwater quality degradation and protect beneficial uses of waters of the state. The General Order contains mitigation measures designed to reduce water quality impacts. As identified in Attachment D, Technical Report Requirements, of the Composting General Order, a discharger (project proponent) must submit a technical report with design information prior to any new construction of any working surfaces, detention ponds, berms, ditches, or any other water quality protection containment structure for approval by the appropriate Regional Water Board.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine

regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing the Clean Water Act Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every three years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the "waters of the State," file a report of waste discharge (ROWD). Absent a potential effect on the quality of "waters of the State," no notification is required. However, the RWQCB encourages implementation of best management practices (BMPs) similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Central Valley Regional Water Quality Control Plan (Basin Plan) (RWQCB, 2016).

Streambed Alteration Agreement (California Fish and Game Code)

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a Streambed Alteration Agreement, 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 the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final Lake or Streambed Alteration Agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft Lake or Streambed Alteration Agreement, thereby making it final.

Sustainable Groundwater Management Act

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. 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.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for hydrology and water resources applicable to the proposed project are provided below. Policies, goals, and implementation measures in the General Plan that are not specific to development are not listed below. However, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.3 Physical and Environmental Constraints

Policies

- | | |
|-----------|---|
| Policy 7 | Ensure effective slope stability, wastewater drainage, and sewage treatments in areas with steep slopes are adequate for development. |
| Policy 9 | Construction of structures that impede water flow in a primary floodplain will be discouraged. |
| Policy 10 | The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan. |
| Policy 11 | Protect and maintain watershed integrity within Kern County. |

Implementation Measures

- Measure F The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.
- Measure H Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.
- Measure N Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9 Resources**Policy**

- Policy 11 Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10 General Provisions**1.10.6 Surface Water and Groundwater****Policies**

- Policy 33 Water related infrastructure shall be provided in an efficient and cost-effective manner.
- Policy 34 Ensure that water quality standards are met for existing users and future development.
- Policy 41 Review development proposals to ensure adequate water is available to accommodate projected growth.
- Policy 43 Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.
- Policy 44 Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

- Measure Y Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.

Kern County Grading Ordinance

Chapter 17.28 Kern County Grading Code. Requirements of the Kern County Grading Code will be implemented. A grading permit will be obtained prior to commencement of construction activities. Of particular note with respect to hydrology and water quality is Section 17.28.140, Erosion Control, which addresses the following:

- **Slopes.** The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.
- **Other Devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.
- **Temporary Devices.** Temporary drainage and erosion control shall be provided as needed at the end of each workday during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Kern County Development Standards

The Kern County Development Standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County – NPDES Program for a Project Disturbing One Acre or Greater

As closed systems that never contact the ocean or other waters of the U.S., many of the waters within Kern County are technically not subject to protective regulations under the federal NPDES Program. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities disturbing one or more acres, and requires the project proponent to provide information about construction activities and to identify whether storm water runoff has the potential of discharging into waters of the United States, waters of the state, or a terminal drainage facility. The purpose of the form is to identify which water quality protection measure requirements apply to different project (if any). Should storm water runoff be contained onsite and not discharge into any waters, no special actions are required. Should storm water runoff discharge into waters of the United States, compliance with the SWRCB Construction General Permit Storm Water Pollution Prevention Plan (SWPPP) requirements is required. Should storm water runoff not be contained onsite and drains to waters of the state or a terminal drainage facility, the project proponent would be required to develop a SWPPP and Best Management Practices (BMPs).

4.9.4 Impacts and Mitigation Measures

This SEIR section describes the impact analysis relating to hydrology and water 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.

Methodology

This section analyzes impacts on hydrology and water quality from the implementation of the project based on the current regulatory framework and changes to the environmental setting as described above, identified drainage, water quality, and groundwater conditions at the project site. Impacts were evaluated based on a review of available data and information, which is summarized above, and in consideration of changes that would occur as a result of project implementation, in comparison to existing conditions.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine if a project could potentially have a significant adverse effect related to hydrology and water quality. A project could 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) impeded or redirect flood flows;
- d. In flood hazard, tsunami, seiche zones, risk release of pollutants due to project inundation;
- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan;

Project Impacts

Impact 4.9-1: The project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

The potential construction and operational impacts are analyzed below to determine if the proposed project violates any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Construction

The existing project site, where composting operations are proposed, is relatively flat and stormwater drains into existing stormwater retention, detention basins, and perimeter drainage channels. Construction activities associated with the covered aerated static pile (CASP) composting system, as described and identified in Chapter 3, *Project Description*, of this SEIR, consists of improvements and construction of concrete bunkers with sidewalls, push walls, and aeration trenches; underground and aboveground piping; water trap and collection sumps; pump station manhole; electrical conduit; site preparation, earthwork, final grading, and drainage; control and monitoring building; leachate piping and sump install; 4 x 10,000 gallon aboveground storage tanks containment and foundation; pumps, controls, wiring, valves and meters; air supply compressor; mobilization; concrete hardware and finishing; architectural coating; final site work and associated controls, valves, fittings, and bollards. Heavy, light-duty, and support equipment will complete earthwork and grading needs, in general, consisting of mobilization and demobilization, excavation, backfilling, compaction, subgrade preparation, and trenching.

As detailed above, conventional grading, earthwork, and excavation would be performed as needed across the proposed project site. However, the project area is generally flat and has been graded previously as a function of ongoing landfill maintenance and property upkeep. Substantial grading and excavation would be required for the concrete bunkers, foundational work, and underground infrastructure and utilities.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. The Kern County Public Works Department requires the completion of an NPDES applicability form for projects with construction activities that would disturb one or more acres within Kern County, which would include the proposed project. Additionally, acquisition of coverage under the General Construction NPDES permit for stormwater would be required. Based on County requirements and on the conditions of the General Construction NPDES permit, the applicant would be required to prepare and implement a SWPPP for construction phase of the project. The SWPPP would include BMPs to be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby drainages. Specific BMPs for the construction phase would be identified during completion of the SWPPP following County and agency review. However, typical BMPs to be implemented could include the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;
- Implementing erosion controls;
- Properly managing construction materials;

- Proper protections for fueling and maintenance of equipment and vehicles; and
- Managing waste, aggressively controlling litter, and implementing sediment controls.

In addition, prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Ordinance (Section 17.28.070).

During project construction, activities that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include, but are not limited to, the following: diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids utilized by construction and maintenance vehicles and equipment. Motorized equipment could leak hazardous materials such as motor oil, transmission fluid, or antifreeze due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. As noted in Section 4.8, *Hazards and Hazardous Materials*, of this SEIR, construction activities would be subject to the existing Hazardous Materials Business Plan, associated Spill Prevention Control and Countermeasure Plan, and other BMP measures in the SWPPP to limit releases of hazardous materials and wastes. The measures would require the delineation of hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. The project proponent would provide all applicable and approved permits and documents to contractors working on the project and would ensure that potential construction impacts to water quality associated with handling of hazardous materials is less than significant.

Additionally, the project proponent must submit a Notice of Intent (NOI) and technical report as specified in Attachments C and D of the Composting General Order (SWRCB, 2015). The project proponent must submit general information, site conditions, design, operations and monitoring information and a compliance schedule for existing facilities. A final post-construction report must be submitted to the Central Valley RWQCB within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with the Composting General Order. The post-construction report must contain as-built plans and specifications to document that containment and monitoring structures were properly constructed and tested.

As required under the Composting General Order, design features shall be incorporated into the design and construction of the CASP composting facility to reduce, minimize, or eliminate potential impacts of water quality. Compliance with design specifications and associated performance requirements included in the Composting General Order is determined to be protective of water quality. The Central Valley RWQCB requires a complete review and approval of the final design and construction plans of the proposed composting facility. The final construction plans are consistent with the design specifications and associated performance requirements of the Composting General Order. As required in the order, to mitigate potential impacts to water quality, the composting operations will be setback at least 100 feet from the nearest water supply well on-site.

Additional design requirements for the proposed CASP composting system include the following. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be designed to prevent water quality degradation. Working surfaces must be capable of resisting damage from the movement of equipment and weight of piles and have a hydraulic conductivity

of 1.0 x 10⁻⁵ centimeters per second. (cm/s) or less. Working surfaces must be constructed to allow year-round equipment access to feedstocks, additives, amendments, and compost (active, curing, or final product) without damage to the working surfaces and containment structures. Berms must be designed, constructed, and maintained to prevent run-on and run-off from a 25-year, 24-hour peak storm event at a minimum. Berms must be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance. Drainage conveyance systems must be designed, constructed, and maintained for conveyance of wastewater from the working surface in addition to direct precipitation from a 25-year, 24-hour peak storm event at a minimum. Ditches must be properly sloped to minimize ponding and kept free and clear of debris to allow for continuous flow of liquid. Ditches must be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance. Ditches must be inspected and cleaned out prior to the wet season every year.

Therefore, through adherence to existing and applicable local and RWQCB regulations along with design specifications under the Composting General Order and implementation of Mitigation Measures 4.9-1, 4.9-2, and 4.9-3, the construction activities associated with the project would not violate any water quality standards or otherwise substantially degrade surface or ground water quality. Impacts would be reduced to a less than significant level.

Operations

As required under the Composting General Order, operational control measures and best management practices shall be implemented to reduce, minimize, or eliminate potential impacts of water quality. Composting operations will be designed to contain wastewater on-site and prevent wastewater from changing groundwater quality to the extent beneficial uses are impacted.

Discharges of the following wastes may pose a significant threat to water quality and are therefore prohibited from being discharged under the Composting General Order: animal carcasses; liquid wastes other than those of food origin; medical wastes as defined in Health and Safety Code section 117690; radioactive wastes; septage; sludge, including but not limited to sewage sludge, water treatment sludge, and industrial sludge; wastes classified as “designated”, as defined in Water Code section 13173; wastes classified as “hazardous” as defined in California Code of Regulations, title 22, section 66261.3; wood containing lead-based paint or wood preservatives, or ash from such wood; or any feedstock, additive, or amendment other than those specifically described in this General Order, unless approved by the Regional Water Board as described in the Specifications. The project does not propose the incorporation of these prohibiting wastes into the composting operation.

As required under the State Water Resources Control Board Order WQ 2015-0121-DWQ General Waste Discharge Requirements for Composting Operations, a Monitoring and Reporting Program (MRP) will be implemented for composting operations. The MRP includes monitoring, reporting, and record keeping requirements for composting operations. Monitoring requirements include facility inspections, detention basin water quality, groundwater protection monitoring, and general sampling, as applicable. Reporting includes requirements for the Annual Monitoring and Maintenance Report, notification of violations, and reporting of significant events. Record keeping describes the types of information and length of time that the Discharger must keep and maintain reports. In operations areas, the project proponent will perform quarterly inspections of the working surfaces, berms, ditches, facility perimeter, erosion control BMPs, and any other operational surfaces (as specified in the NOI and/or a technical report and approved by the RWQCB). Through adherence to the required RWQCB regulations and operational specifications under

the Composting General Order, operations associated with the project would not violate any water quality standards or otherwise substantially degrade surface or ground water quality. The project proponent, as a condition of this General Order, may be required to conduct regular maintenance and monitoring to demonstrate protection of water quality and beneficial uses. Impacts would be less than significant level.

In addition to the operational components illustrated above, separation of stormwater from compostable materials would be achieved by physically covering the material with an impermeable cover (an engineered membrane fabric). Water that contacts compost could include elevated levels of pathogens and other water quality pollutants, hence the need for use of the engineered fabric cover. Stormwater, upon being deflected from the bunkers, would be conveyed to the existing detention ponds to the south and northeast of the proposed composting area. Stormwater management from the project site during operation is expected to be relatively consistent with current conditions with the majority of stormwater flows contained onsite. The proposed project would not exceed the capacity of existing drainage systems at the project area or create substantial additional sources of polluted runoff. These proposed operational elements are consistent with the Composting General Order and would not result in impacts that would violate any water quality standards or otherwise substantially degrade surface or ground water quality.

Existing landfill operations are governed by the project's approved Waste Discharge Requirement Order No. R5-2012-0011. All WDRs must implement the applicable Regional Water Board's Basin Plan for the region in which the discharge occurs; therefore, the Composting General Order requires dischargers to comply with all applicable Basin Plan requirements and water quality objectives governing the discharge. As a result of the proposed project, the project proponent shall comply with the requirements of the Central Valley RWQCB and apply for revised WDRs to allow for composting operations. The proposed composting operation may be incorporated into the existing WDRs, or the operation may be issued separate and distinct WDRs (to be determined through the RWQCB permitting process). Therefore, through adherence to the required RWQCB regulations and operational specifications as well as implementation of Mitigation Measure MM 4.9-3, operations associated with the project would not violate any water quality standards or otherwise substantially degrade surface or ground water quality. Impacts would be reduced to a less than significant level.

The proposed expansion of landfill hours of operations and ancillary activities would not require or result in changes to surface or stormwater and would not result in impacts to water quality. These activities are currently regulated and monitored under the existing WDRs for the project site. Groundwater monitoring and landfill gas monitoring shall continue to be implemented at the project site, along with operation and maintenance of the landfill gas flare. Groundwater laboratory results and annual and semi-annual reports are submitted to the Central Valley RWQCB per the WDRs. The existing operations do not violate any section of the current WDRs, nor do the operations violate any water quality. Impacts are less than significant.

Operation of the proposed composting facility would require very limited use of certain hazardous materials for routine daily operations and maintenance. Accidental release of such materials could include fuels, lubricants, hydraulic oil, and similar liquids, which would result in water quality degradation if the materials were to become entrained in stormwater. This could occur as a result of accidental releases at maintenance areas, equipment or fuel storage areas, or a hazardous material storage area. This would result in a potentially significant impact on water quality. However, implementation of Mitigation Measure MM 4.8-2, from Section 4.8, *Hazards and Hazardous Materials*, in this SEIR, would minimize this impact by

ensuring safe handling of hazardous materials on site and providing for spill response measures in the event of an accidental release.

During project operations, water quality could also be degraded as a result of increases in pollutants washed from new impervious surfaces on the project site, or more generally from activities associated with composting operations. Impervious surfaces prevent the infiltration of water into the subsurface. Pollutants collected on impervious surfaces during dry periods – such as greases, oils, and other vehicle-related pollutants – can become entrained in surface waters during storm events, resulting in water quality degradation. However, when the project is operational, the project would be required to adhere to the requirements of the approved WDRs, the Composting General Order, Title 27 CCR, MRP, and other applicable standards and regulations as appropriate. Adherence to these requirements would minimize potential impacts on water quality, and potential impacts would be reduced to less than significant.

In summary, project construction and operational impacts have the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. However, through compliance and adherence with applicable regulations and requirements along with the implementation of Mitigation Measures MM 4.8-2, MM 4.9-1, MM 4.9-2, and MM 4.9-3, potential impacts on water quality associated with the construction and operations would be minimized and reduced to less than significant.

Mitigation Measures

Implement Mitigation Measure **MM 4.8-2** from Section 4.8, *Hazardous and Hazardous Materials*, in this SEIR, and the Mitigation Measures listed below:

- MM 4.9-1:** The Kern County Public Works Department shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) as required under the General Construction Permit for Discharges of Storm Water Associated with Construction Activities, for all construction phases of the project. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge and shall require the implementation of best management practices (BMPs) to reduce pollutants in stormwater discharges.
- MM 4.9-2:** The Kern County Public Works Department shall submit a Notice of Intent (NOI) and technical report as specified in Attachments C and D of the State Water Resources Control Board Order WQ 2015-0121-DWQ General Waste Discharge Requirements for Composting Operations.
- MM 4.9-3:** The Kern County Public Works Department shall apply for and receive approval from the Regional Water Quality Control Board for the proposed project through issuance of revised site-specific Waste Discharge Requirements (WDRs).

Level of Significance

With implementation of Mitigation Measures MM 4.8-2, and MM 4.9-1 through MM 4.9-3, impacts would be less than significant.

Impact 4.9-2: The project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Under existing conditions, the landfill and diversion operations utilize groundwater from an on-site water supply well for operations. The existing landfill and diversion programs consume water for, including but not limited to, dust control, fire suppression needs, handling and processing of diverted materials, gatehouse utility, construction, as well as for auxiliary uses onsite. Existing operations averages 24.26 acre-feet of water usage per year and provided by County-owned water supply wells and tanks onsite.

Existing water supply needs at the project site water is provided from an onsite well. There are two existing County-owned water systems on site. One well produces 60 gallons per minute for the 10,000-gallon water tank. The other water supply has a pump rated to produce 500 gallons per minute and a steel tank with a capacity of 63,400 gallons. The tank is used to fill water trucks using one of two 400-gpm pumps. Water from these wells are not potable. In addition to the two existing County-owned wells, the project proponent and the Semitropic Water Storage District entered into a Well Sharing Agreement in 2018. The agreement allowed Semitropic to install a well on County-owned property (APN 088-100-08) south of the existing operating area. The County and project proponent have rights to 320 acre-feet of water per year from the well or 18.3% of the actual production capacity of the well. One septic tank serves the gatehouse located at the entrance of the project site. The project proponent has the right to pump groundwater for project needs.

As discussed in much greater detail in Section 4.13, *Utilities and Service Systems*, in this SEIR, the project would result in a net increase in groundwater pumping to meet the project needs. The project would require an estimated 9.93 acre-feet per year, 4.41 acre-feet per year for expanded landfill operations and 5.52 acre-feet per year for proposed composting operations. This 9.93 acre-feet per year of total groundwater usage, which equates to only 3.1% of the allotted 320-acre feet per year annually, is beyond the existing usage of 24.26 acre-feet per year for landfill operations. The project proponent will continue with efforts to offset groundwater use through the recirculation of leachate, as demonstrated in detail in **Table 4.13-1, Composting Water Demand** and use of traditionally wetter feedstocks, such as food material, vegetative food material, and grass clippings.

As discussed in greater detail in Section 4.13, *Utilities and Service Systems*, in this SEIR, the existing groundwater basin is not adjudicated, although it is subject to the requirements of California's Sustainable Groundwater Management Act (SGMA). The Semitropic Water Storage District, as a groundwater sustainability agency, developed their 2020 Groundwater Sustainability Plan (GSP), and this plan was written in conjunction with and in support of a basin wide GSP drafted on behalf of the Kern Groundwater Authority (KGA). Limits imparted under SGMA are not expected to impede project operation (refer to Section 4.13).

Furthermore, although the project would result in a small incremental increase in groundwater pumping, at 9.93 acre-feet per year, this increase would be extremely small in comparison to estimated storage in the underlying groundwater basin. Based on data from the California Department of Water Resources (DWR, 2006), total aquifer storage in the Subbasin is estimated to be approximately 40,000,000 AF. The proposed increase of 9.93 acre-feet per year constitutes a minuscule volume of the total volume of water stored in the Subbasin. Additionally, even when comparing estimated Subbasin inflows (1,500,000 AFY) and outflows (1,400,000 AFY), the project would also only constitute a minuscule percentage of net basin impact on an annual basis.

Additionally, the project would not meaningfully interfere with groundwater recharge. Under existing conditions, the landfill and project area have existing stormwater retention and detention basins and stormwater drainage channels designed to retain water on site for infiltration and groundwater recharge. Proposed expanded landfill and composting operations would utilize existing drainage features and stormwater infrastructure. Therefore, the project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, nor would it substantially lower the local groundwater table. This impact is considered less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.9-3: The project would 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 result in a substantial erosion or siltation on- or off-site; substantially increase the rate of amount of surface runoff in a manner which would result in flooding on or offsite; 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 impeded or redirect flood flows.

Under existing conditions for landfill and diversion operations, during routine rain events at the project site, rainfall and stormwater is managed and collected via a series of berms, channels, v-ditches, piping, retention/detention ponds, and borrow areas. The existing project site, where composting operations are proposed, is relatively flat and stormwater drains into existing stormwater features. Rainfall is also captured through absorption into the soils on site. All stormwater is managed on-site and no discharge occurs. There are no natural streams, rivers, or other natural waterways or wetlands located on site or in the immediate vicinity of the project area. The project area designated for composting has been previously disturbed and graded as a function of ongoing landfill maintenance and property upkeep.

Construction activities associated with the CASP composting system, as described in Chapter 3, *Project Description*, and Impact 4.9-1 of this SEIR, consists of earthwork and grading as well as the construction of concrete bunkers with auxiliary compost system infrastructure that would result in the addition of impervious surfaces and would alter existing onsite drainage patterns. Also, changes in drainage patterns related to the construction and installation of new facilities could increase the occurrence of localized flooding onsite. As required under the Composting General Order and described in Section 4.7, *Geology and Soils*, Impact 4.7-2, design features shall be incorporated into the design and construction of the CASP composting facility to reduce, minimize, or eliminate potential impacts of water quality and soil erosion. The facility's new impervious surface would be designed to utilize existing drainage features to the north and south, which are adequately sized currently to manage the additional flows. In addition, the project will be designed, constructed, and maintained to control from a 25-year, 24-hour peak storm event, per the Composting General Order.

Construction of the composting facility will not include the removal of topsoil offsite. Soil excavated as a result of the project will either be incorporated into another activity of the project site or retained on site for use during landfill operations as daily cover or final cover. The project could have impacts due to increasing the number of impervious surfaces and through grading construction needs. Existing stormwater management features are sized appropriately and consistent with existing regulatory requirements, and all stormwater management facilities are designed to minimize any erosion or sedimentation. However, the project would be subject to the Composting General Order, the site's WDRs, the final engineering design plans, and the SWPPP for the project. During construction, the project would be required to adhere to the Kern County Public Works Department storm water requirements to control erosion and protect water quality of stormwater runoff. In addition, with the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.9-3, potential impacts would be minimized and reduced to less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.9-1 through MM 4.9-3.

Level of Significance

With implementation of Mitigation Measures MM 4.9-1 through MM 4.9-3, impacts would be less than significant.

Impact 4.9-4: The project would, in flood hazard, tsunami, seiche zones, risk release of pollutants due to project inundation.

FEMA delineates flood hazard areas on its FIRMs, as previously discussed. A review of the map index sheets for FEMA's FIRMs for Kern County indicates that no map (i.e., panel) has been prepared for the area in which the project site lies since, according to FEMA, no special flood hazard areas exist in this panel. There are no large land-locked bodies of water within the vicinity of the site. The project site is located in the San Joaquin Valley at a distance of over 70 miles from the Pacific Ocean. The California Department of Conservation has not designated the project area as being in a tsunami inundation zone. Therefore, a seiche and inundation from a tsunami is not a reasonably foreseeable event. The project is not be located within a floodplain, hazard, tsunami, or seiche zone, and no impact would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impact 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.

As noted above, the project site is located within the Central Valley RWQCB's jurisdiction and is subject to the applicable requirements of the regional Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. The project would also include required construction BMPs and drainage control requirements that would be consistent with the basin plan along with implementation

of a SWPPP, as specified in MM 4.9-1. These required BMPs and drainage control requirements would be consistent with any Central Valley RWQCB water quality control plans. Project implementation would require the issuance of new WDRs, as detailed in MM 4.9-3, which would be consistent with any Central Valley RWQCB water quality control plans.

The project is located in the Tulare Lake Groundwater Basin and Semitropic, as a GSA, developed their 2020 GSP. This plan was written in conjunction with and in support of a basin wide GSP drafted on behalf of the Kern Groundwater Authority (KGA). There are no adjudicated areas or incorporated cities within the Semitropic area. The project would require groundwater for construction or operation at the rate of 9.93 acre-feet per year for expanded landfill operations and composting operations. The project proponent has a well sharing agreement with Semitropic allowing the use of 320 acre-feet per year from the on-site and existing well. The well sharing agreement provides for capacity rights. The project is also governed by Semitropic's IWSA. The IWSA provides for non-contract water use. Each of these agreements govern delivery of water to the project's parcel. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implement Mitigation Measures MM 4.9-1 and MM 4.9-3.

Level of Significance

With implementation of Mitigation Measures MM 4.9-1 and MM 4.9-3, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description*, of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Projects List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The general cumulative setting for surface water quality includes the Tulare-Buena Vista Lakes Basin Hydrologic Unit, described above, while the setting for groundwater impacts includes the area overlying the groundwater Subbasin, as described previously. The geographic scope used to identify projects listed in Table 3-4, *Cumulative Projects List*, is a somewhat smaller scope than the cumulative setting, but this area includes regional and surrounding projects and developments and are therefore representative of the hydrological unit and Subbasin as a whole.

With regard to water supply, some of the cumulative scenario projects would also require groundwater withdrawal in order to support their implementation. A review of data available for the projects, however, indicates that water supplies are in most cases already planned for in existing planning documents, including urban water management plans and water supply assessments. Additionally, SGMA implementation in the basin will ensure that groundwater withdrawals across the basin are reallocated, to the extent warranted, in

order to ensure that groundwater withdrawal is managed to minimize groundwater overdraft. Therefore, cumulative scenario impacts associated with groundwater levels are anticipated to be less than significant.

As discussed above, the project would be required to implement a SWPPP, construction BMPs, revised WDRs, compliance with the Composting General Order, and implementation of a Monitoring and Reporting Program to minimize potential for release of pollutants and sediment into surface water. Other cumulative scenario projects would be required to implement similar measures as a part of the CEQA and permitting review process. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measures MM 4.9-1 and MM 4.9-3, which would minimize direct impacts on erosion, drainage, and flooding. It is anticipated that other cumulative scenario projects would be required to implement project and site-specific measures in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

Mitigation Measures

Implement Mitigation Measures MM 4.9-1 through MM 4.9-3.

Level of Significance

With implementation of Mitigation Measures MM 4.9-1 through MM 4.9-3, cumulative impacts would be less than significant.

4.10.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to land use and planning resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.10.2 Environmental Setting

The environmental setting for land use and planning resources is the same as that described in Chapter 4.10.2 – *Land Use and Planning, Environmental Setting*, pages 4.10-1 through 4.10-7 – of the 2009 EIR.

The existing landfill is located on unincorporated land situated between the cities of Shafter and Wasco. The city limits of Shafter are approximately eight miles to the east, and the city limits of Wasco are approximately nine miles to the north of the Shafter-Wasco Recycling & Sanitary Landfill. The landfill serves an area of 2,075 square miles, including the cities of Shafter, Wasco, Delano, McFarland, Bakersfield (northwest region) and the unincorporated communities of Glennville, Lost Hills, and Buttonwillow. The landfill services the residential, commercial, and agricultural waste and recycling needs of the County of Kern. Current operations receive waste from Public Works Department owned and operated transfer stations, including but not limited to, Buttonwillow, Glennville, McFarland-Delano, and Roberts Lane. Use as a sanitary landfill is a long-term commitment of the land.

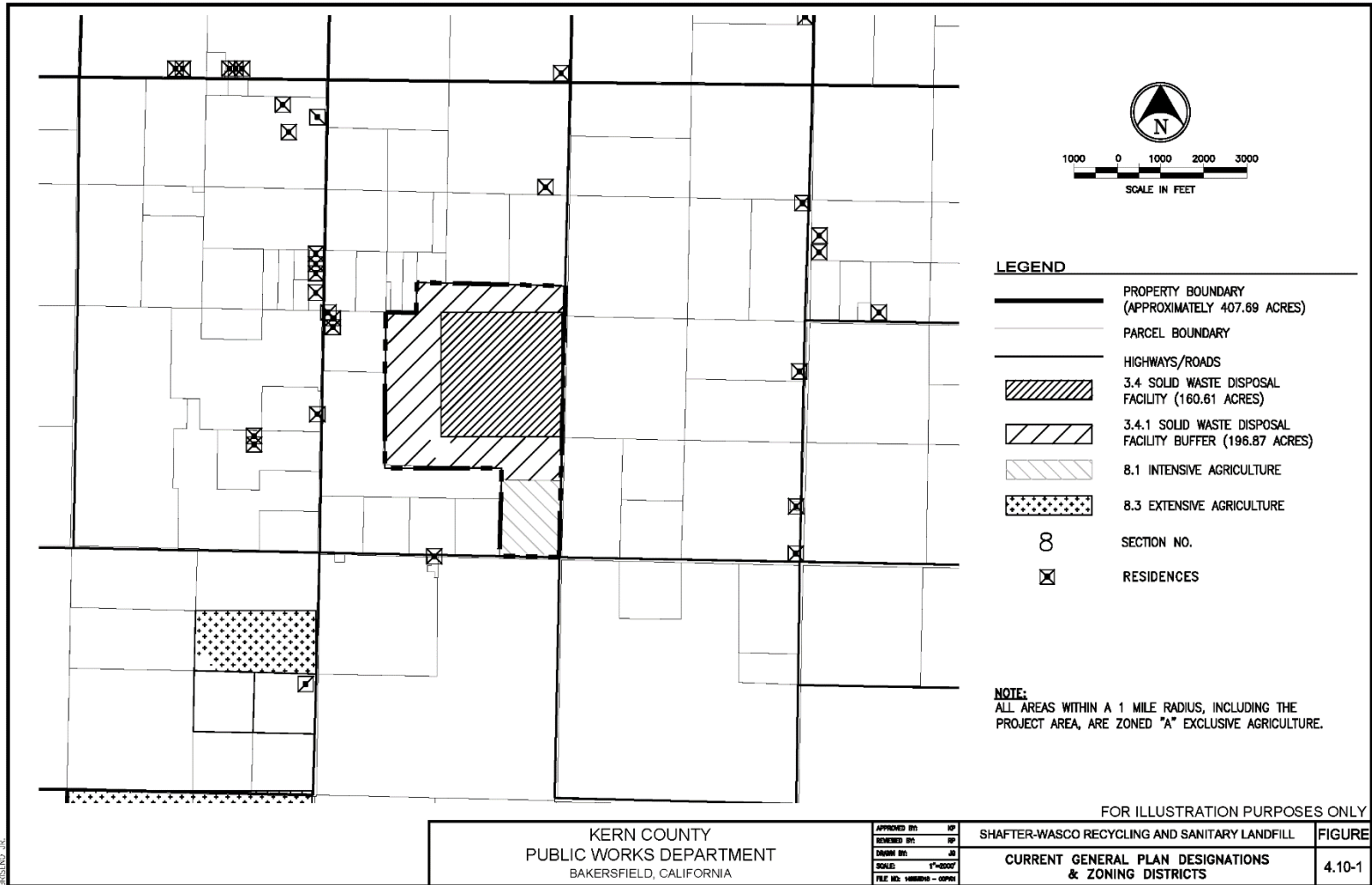
The existing permitted facility boundary is located within the existing 1997 Solid Waste Facilities Habitat Conservation Plan (HCP) but does not conflict with it. Development and land division encroachment around the landfill is a potential concern. The establishment of buffer lands (247.08 acres) helps to protect the landfill from encroachment of sensitive and incompatible uses. The landfill is located in a rural agricultural area; there is no established community. Existing planning does not allow for the establishment of a community land use pattern.

Local Setting

As described in Chapter 3, *Project Description*, the project site is an existing solid waste municipal landfill with associated ancillary landfill activities and diversion program operations. Buffer lands are established to protect the landfill from encroachment of sensitive and incompatible uses. Ancillary activities and diversion programs operate within the buffer lands of the facility.

The project has the appropriate land use designations and zone district classifications to allow the operation of a solid waste disposal facility and associated diversion programs and related landfill activities. As established through the 2009 EIR, the landfill property is designated Map Code 3.4 (Solid Waste Disposal Facility) and land surrounding the landfill are designated Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) and Map Code 8.1 (Intensive Agriculture). All lands associated with the project are zoned A (Exclusive Agricultural). The project site is subject to and located within the Kern County General Plan and Kern County Zoning Ordinance. Designations and zone classifications are shown in **Table 4.10-1**, *Project Site Land Uses*, and **Figure 4.10-1**, *(Current General Plan Designations & Zoning Districts)*, below.

K:\ENGINEERING\DESIGN ENGINEERING\OLD WASTE I DRIVE\1-SITE PROJECTS\TECHNICAL RESOURCES\ONLY TECHNICAL DOCUMENTS\WATER WASCO\145MUTD18 - COPPOL.DWG, 9/14/2020 4:28 PM, 11x17_inch.dwg, 11



Proposed enhanced self-haul recycling operations are planned to be implemented in the buffer area of the landfill where existing and ongoing diversion operations occur in the Map Code 3.4.1 area. Current General Plan designations and zoning classifications allow for the self-haul recycling operations in the buffer area to occur. The proposed composting operation is planned to operate within the northwestern 20-acre portion of APN 088-100-38 and is currently designated as Map Code 3.4.1.

Solid Waste Disposal Facility Buffer lands (Map Code 3.4.1), as described in Chapter 3, *Project Description*, are utilized consistent with the existing Conditional Use Permit (CUP) and land use approvals which includes – borrow area; drainage facilities; landfill gas and groundwater monitoring; passive energy collection facilities, with prior written approval of the Director of the Kern County Planning & Natural Resources Department; construction and closure activities; drainage improvements and erosion controls; groundwater monitoring installations; landfill gas monitoring and extraction installations; areas required for landfill closure construction; leachate storage and extraction facilities; closure equipment staging facilities; Habitat Conservation Plan offsets; and buffer to prevent incompatible adjacent land uses. In addition, waste recycling and diversion activities and agricultural development under lease agreement can occur.

Table 4.10-1: Project Site Land Uses*			
APN	Existing Land Use	Existing Map Code Designation	Existing Zoning Classifications
088-100-38 (250.42 acres)	Landfill Disposal, Diversion, and Landfill Buffer	3.4 (Solid Waste Disposal Facility); 3.4.1 (Solid Waste Disposal Facility Buffer)	A (Exclusive Agriculture)
088-100-40 (80 acres)	Agriculture	3.4.1 (Solid Waste Disposal Facility Buffer)	A (Exclusive Agriculture)
088-100-08 (77.27 acres)	Agriculture	3.4.1 (Solid Waste Disposal Facility Buffer); 8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
Source: Kern County General Plan and Kern County Zoning Ordinance via Kern County GIS *No changes are proposed to Zoning Districts as part of the proposed project			

Surrounding Land Uses

Agriculture remains the dominant land use surrounding the site. The project site is entirely bordered to the north, east, south, and west by agricultural development. A summary of existing land uses and land use designations surrounding the project area are identified on **Table 4.10-2, Surrounding Land Uses**. See **Figure 4.10-1, (Current General Plan Designations and Zoning Districts)**, for designations and zone classification. The previous residential dwelling located 750 feet south of the landfill has been abandoned since the 2009 EIR was certified. The nearest residential dwellings, used in conjunction with agricultural activities, are one half (1/2) mile west of the proposed project site.

Table 4.10-2: Surrounding Land Uses			
Direction from Project Site	Existing Land Use	Existing General Plan Map Code Designation	Existing Zoning Classifications
North	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
East	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
South	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
West	Agriculture	8.1 (Intensive Agriculture)	A (Exclusive Agriculture)
Source: Kern County General Plan and Kern County Zoning Ordinance via Kern County GIS			

4.10.3 Regulatory Setting

The regulatory setting for land use and planning resources is the same as that described in Chapter 4.10.3 – *Land Use and Planning, Regulatory Setting*, pages 4.10-7 through 4.10-11 – of the 2009 EIR.

Kern County General Plan (KCGP)

The State of California Government Code 65300 requires Kern County to prepare and adopt a general plan. The KCGP was recently revised and was approved on June 15, 2004. Its purpose is to give long-range guidance to county officials making decisions affecting the growth and resources of unincorporated Kern County. The KCGP 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.

The project site is governed by the KCGP. The existing landfill is designated Solid Waste Disposal Facility (Map Code 3.4). The project site remainder is designated 3.4.1 (Solid Waste Disposal Facility Buffer) and Intensive Agriculture (Map Code 8.1). The Public Works Department purchased buffer lands and a section 65402 consistency review found the acquisition to be consistent with the KCGP Policies.

In addition, please see the following updates below.

Local

Kern County General Plan

Since the certification of the 2009 EIR, additional goals, policies, and implementation measures now apply to the project. In addition to the Land Use, Open Space, and Conservation Element, the Kern County General Plan includes other elements that relate to the project. Each element establishes goals, policies, and implementation measures that guide planning decisions in unincorporated Kern County. The goals, policies, and implementation measures relevant to the project are listed below.

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

1.4 Public Facilities and Services

Goal

- Goal 1 Kern County residents and businesses should receive adequate and cost-effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Map Code

- 3.4.1 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.
- 3.7 (Other Waste Facilities) – Non-hazardous waste facilities which manage and process various types of waste materials but do not have onsite disposal. Examples include but are not limited to large and medium volume transfer facilities; materials recovery facilities; composting facilities (green waste and biosolids); wood waste (chipping and grinding facilities); tire recycling; soil remediation; transformation facilities; ash operations and facilities as defined in §17376 of Title 14; and construction and demolition recycling (see Appendix F).

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.
- 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 pertinent County roads.
- Policy 13 The County shall ensure landfill capacity for the residents and industry of Kern County.
- Policy 15 All other waste facilities (non-hazardous/non-disposal) shall designate a buffer around the permitted waste area as defined by the 3.7 land use designation.

Implementation Measures

- Measure C Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D Involve utility providers in the land use and zoning review process.
- Measure L Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.
- Measure M Conditional use permits shall be required for solid waste facilities to establish the standards and conditions necessary to protect the public's health and safety and to protect characteristics associated with diverse communities and regions of Kern County.
- Measure W Solid waste disposal facilities approved prior to the adoption of this General Plan shall strive to have a 660-foot buffer around the permitted disposal area as defined by the Map Code 3.4 (Solid Waste Disposal Facility) land use designation.
- Measure X The uses that are allowed within the Map Code 3.4.1 (Solid Waste Disposal Facility Buffer) land use designation shall be listed within the conditional use permit approved for the solid waste disposal facility or as provided for in the approved solid waste facility permit.
- Measure Y Each adopted site for other waste facilities (Map Code 3.7) shall be depicted on the General Plan map, and on a map in Appendix F delineating the boundaries of the facility, and existing permanent dwelling units within 200 foot of the facility's boundary or 660 foot for a commercial organic compost and transformation facilities. Modifications to the permitted waste area of an Other Waste Facilities shall require a General Plan Amendment to a Map Code 3.7 for the expansion area and shall simultaneously amend the Map Code 3.7.1 (Other Waste Facilities Buffer) boundary to maintain the required buffer area from the permitted waste area. The General Plan Amendment process shall include amending the facilities map in Appendix F.
- Measure AA Other waste facilities approved prior to adoption of this General Plan shall strive to have a 200-foot buffer around the permitted disposal area as defined by the 3.7 land use designation. Land, which is not owned by the other waste facility and is within 200-foot of a permitted disposal facility, shall include a Map Code 2.10 (Nearby Waste Facility) combining land use designation, except for commercial organic compost and transformation facilities which require a 660-foot designated buffer.
- Measure DD Existing Map Code 3.4 (Solid Waste Disposal Facility) facilities that have approved permits consistent with Map Code 3.7 (Other Waste Facilities) may not expand their allowed land uses without a consistency finding with this General Plan. To be consistent a General Plan Amendment from Map Code 3.4 (Solid Waste Disposal Facility) to Map Code 3.7 (Other Waste Facilities), and a buffer designated Map Code 3.7.1 (Other Waste Facilities Buffer) may be required.

1.10.2 Air Quality

Policies

- Policy 19 In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision-making body, as part of its deliberations, will ensure that:
- 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 21 The County shall support air districts' efforts to reduce PM₁₀ and PM_{2.5} emissions.

Implementation Measures

- Measure F All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G Discretionary development projects involving use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to minimizing idling time or electrical overnight plug-ins.
- Measure H Discretionary projects may use one or more of the following to reduce air quality effects:
- a. Pave dirt roads within the development.
 - b. Pave outside storage areas.
 - c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 - d. Use of alternative fuel fleet vehicles or hybrid vehicles.
 - e. Use of emission control devices on diesel equipment.
 - f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
 - g. Provide bicycle lockers and shower facilities on site.
 - h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
 - i. The use and development of park and ride facilities in outlying areas.
 - j. Other strategies that may be recommended by the local Air Pollution Control Districts.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25 The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measure

Measure 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.

1.10.6 Surface Water and Groundwater

Policies

Policy 33 Water related infrastructure shall be provided in an efficient and cost-effective manner.

Policy 39 Encourage the development of the County's groundwater supply to sustain and ensure water quality and quantity for existing users, planned growth, and maintenance of the natural environment.

Policy 43 Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Implementation Measure

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

1.10.7 Light and Glare

Policies

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

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

Implementation Measures

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

Chapter 3, Noise Element

Goal

- Goal 1 Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Policies

- Policy 1 Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
- Policy 2 Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.
- Policy 4 Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 7 Employ the best available methods of noise control.

Implementation Measures

- Measure A Utilize zoning regulations to assist in achieving noise-compatible land use patterns.
- Measure C Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.

Chapter 4, Safety Element, 4.6 Wildland & Urban Fire

Goal

- Goal 1 Minimize injuries and loss of life and reduce property damage.

Policies

- Policy 1 Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3 The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4 Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6 All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measure

- Measure A Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Appendix F, Other-Waste Facilities

Map Code 3.7 “Other Waste Facilities (non-hazardous/non-disposal)” is defined as non-hazardous waste facilities that do not have an on-site disposal. Examples include, but are not limited to the following, large and medium volume transfer facilities; Materials Recovery Facilities (MRF); organic composting facilities (green waste and biosolids); wood waste (chipping and grinding facilities); tire recycling; soil remediation; transformation facilities; and construction and demolition recycling.

Pursuant to Public Resources Code 43000 et seq., certain findings are required for designating sites for Other Waste Facilities (non-hazardous/non-disposal). Findings must show that an existing Other Waste Facilities (non-hazardous/non-disposal), a new facility, or future expansion of an existing site 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.

Organic composting facilities are those designed to yield a safe and nuisance free product through a controlled microbial degradation of organic wastes as defined in Section 40116 of the Public Resources Code. A “Composting Facility” includes green materials composting facilities that have greater than 1,000 cubic yards of feedstock and active compost on-site at any one time, animal material composting, and mixed solid waste composting facilities.

These sites are to be designated on the applicable General Plan maps or Specific Plan maps as Map Code 3.7 Other Waste Facilities. The following criteria shall be used in evaluating a proposed commercial organic composting facility site.

- a. Landscaped buffer strips or other suitable buffers shall be required to establish a minimum of 660 feet between the new commercial organic composting facility and residential dwelling unit(s), existing or future. This 660-foot buffer shall be owned by the commercial composting facility and shall be designated Map Code 3.7.1.
- b. The facility shall be sited in such a manner that traffic, litter, odor, or fire would be mitigated to acceptable levels.
- c. The facility shall be sited in such a way so as to minimize impacts on County owned streets and highways.

Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance provides a description of permitted uses for the various zoning classifications within the County. The Zoning Ordinance consists of two primary parts – 1) a Zoning Map that delineates the boundaries of zoning districts; 2) and a Zoning Code that explains the purpose of the districts, specifies permitted and conditional uses, and establishes development and performance standards. The intent of the Zoning Code is to protect public health, safety, and the general welfare of residents and visitors in the County. Together with the Zoning Map, the Zoning Code identifies the particular uses permitted on each parcel of land in the County and sets forth regulations and standards for development to ensure that the policies, goals, and objectives of the General Plan are implemented. The Zoning Code regulates which uses are permitted in each of the County’s zoning districts to ensure compatibility between land uses.

Kern County Incorporated Cities Integrated Waste Management Plan

State regulation, under California Code of Regulations Title 14, administered by the California's Department of Resources Recycling & Recovery requires all counties to develop comprehensive solid waste management plans. The County has established general siting guidelines for solid waste facilities to provide procedural guidance and criteria to ensure consistency with local planning programs and documents. The Kern County Public Works Department amended the Countywide Siting Element in October 2014. The Siting Element recognized and reserved the existing Shafter-Wasco Recycling & Sanitary Landfill as an Integrated Waste Management Facility (IWMF), which designated the landfill as a regional waste management facility for composting and advanced/conversion technologies.

In addition, California Public Resources Code Section 41730 et seq, requires every county to prepare and adopt a Non-Disposal Facility Element (NDFE) for all new non-disposal facilities and any expansions of existing non-disposal facilities. The Kern County Public Works Department updated the County's NDFE in February 2020.

4.10.4 Impacts and Mitigation Measures

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

Methodology

The methodology for land use and planning resources is the same as that described in Section 4.10.4.1 of the 2009 EIR,

The potential impacts associated with the proposed project are evaluated on a qualitative basis through a comparison of the existing land use and the proposed land uses. The change in the land use on the project site is significant if the effect described under the Thresholds of Significance below occurs as a result of the proposed actions. The evaluation of project impacts is based on professional judgment, analysis of the County's visual resources policies and the significance criteria established in Appendix G of the State CEQA Guidelines, which the County has determined appropriate for this SEIR.

Compliance with the aforementioned policies is illustrated in the *Kern County General Plan Designations and Zone District Consistency Matrix* as incorporated in the Chapter 1 of the County's General Plan.

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on land use and planning resources, if it would:

- a. Physically divide an existing community or contribute to the decline of an existing community (a physical change that interrupts the cohesiveness of the established community);

- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or

Project Impacts

Impact 4.10-1: The project would physically divide an existing community or contribute to the decline of an existing community (a physical change that interrupts the cohesiveness of the established community)

The proposed project is sited in a rural agricultural area with no established community. Surrounding Kern County General Plan designations, zoning districts, and contracted lands in the area would make it unlikely that a community would be established in the future. The project is approximately eight miles west of the City of Shafter and nine miles northeast of the City of Wasco in an unincorporated area of Kern County. The project site is bordered to the north, south, east, and west by agricultural lands. The nearest populated areas are the cities of Shafter and Wasco. While there will be expansion of the permitted facility boundary as part of the project, it will not physically divide an established community.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.10-2: The project would conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The Kern County General Plan and the Kern County Zoning Ordinance establish land use policies and regulations that are applicable to the project. The following discussion evaluates the project's conformity to these plans, policies and regulations.

Whereas an A zone district permits composting and solid waste facility buffer with a CUP, a General Plan amendment is required to allow composting operations and an increase to solid waste disposal facility buffer. The project proposes to amend the Kern County General Plan:

- From Map Code 3.4.1 (Solid Waste Facility Buffer) to Map Code 3.7 (Other Waste Facilities) for 20 acres for composting;
- From Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer; and
- Amend Appendix E Map “Shafter-Wasco RSLF” to show revised permitted facility with designated buffer and compost areas

Expanded Hours of Operations, Ancillary Activities, and Self-Haul Recycling Operations

The proposed project lands have the appropriate land use designations and zone district that permits the operation of a solid waste disposal facility, ancillary activities, and associated diversion program operation. As established through the 2009 EIR, the landfill property is designated Map Code 3.4 (Solid Waste Disposal Facility) and land surrounding the landfill are designated Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). The lands are zoned A (Exclusive Agricultural). According to the *Kern County General Plan Designations and Zone District Consistency Matrix*, Map Codes 3.4 and 3.4.1 are compatible with an A (Exclusive Agricultural) zone district.

As detailed in Chapter 3, *Project Description*, the project proposed an increase to the permitted hours for the Receipt of Waste from 7:00 a.m. to 5:00 p.m., seven days per week to 7:00 a.m. to 7:00 p.m., seven days per week. Hours for the Receipt of Waste is defined as the days and hours open to all customers for the deposition of waste and diversion materials. The proposed project includes a change in Ancillary and Facility Operating Hours from 7:00 a.m. to 5:00 p.m., seven days per week to 24-hours a day, seven days per week. Proposed expanded hours of operation and ancillary activities are planned to be implemented in the existing Map Code 3.4 and 3.4.1 areas. Current designations and zoning classifications allow for said actions to occur. No zone district changes are proposed or required as part of project implementation.

Proposed self-haul recycling operations are planned to be implemented in the northern buffer area of the landfill where existing and ongoing diversion operations occur in the Map Code 3.4.1 area. Current designations and zoning classifications allow for self-haul recycling operations in the buffer area to occur. No zone district changes are proposed or required as part of project implementation.

Solid Waste Facility Buffer

As detailed in Chapter 3, *Project Description*, the project proposed the addition of 50.27 acres to the permitted facility boundary and into the CUP from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to Map Code 3.4.1 (Solid Waste Disposal Facility Buffer). The 50.27 acres is the southern portion of APN 088-100-08 (comprised of 77.27 acres in total). The project proposes to utilize the 50.27 acres consistent with the existing CUP and identified land use approvals, which include – borrow area; drainage facilities; landfill gas and groundwater monitoring; passive energy collection facilities, with prior written approval of the Director of the Kern County Planning & Natural Resources Department; construction and closure activities; drainage improvements and erosion controls; groundwater monitoring installations; landfill gas monitoring and extraction installations; areas required for landfill closure construction; leachate storage and extraction facilities; closure equipment staging facilities; Habitat Conservation Plan offsets; buffer to prevent incompatible adjacent land uses; waste recycling and diversion activities; and agricultural development. According to the *Kern County General Plan Designations and Zone District Consistency Matrix*, Map Codes and 3.4.1 are compatible with an A zone district. See **Figure 4.10-2**, (*Proposed General Plan Designations & Zoning Districts*), for proposed land use changes.

The Public Facilities and Services Implementation Measure W listed in the Land Use, Open Space, and Conservation Element of the Kern County General Plan states that existing solid waste disposal facilities strive to have a 660-foot buffer around the existing permitted disposal area. With the proposed amendment from Map Code 8.1 to Map Code 3.4.1, the project assists the Public Works Department to remain compliant with the General Plan requirement and prevents encroachment of incompatible land uses or future potential development. The proposed change does not include property that is currently under Williamson Act contracts or in agricultural reserve. No zone district changes are proposed or required as part of project implementation.

Composting Operations

The proposed composting operation is scheduled to operate within the northwestern 20-acre portion of APN 088-100-38 and is currently designated as Map Code 3.4.1. The project is proposing a change from Map Code 3.4.1 (Solid Waste Facility Buffer) to Map Code 3.7 (Other Waste Facilities) for 20 acres to allow for a composting operation and facility. See **Figure 4.10-2**, (*Proposed General Plan Designations & Zoning Districts*), for proposed land use changes.

The change to Map Code 3.7 and siting of the proposed composting facility will comply with guidelines established in Appendix F (Other Waste Facilities, Non-Hazardous/Non-Disposal) of the Kern County General Plan. Appendix F is intended to ensure land use compatibility for the health and safety of Kern County residents. The proposed compost facility will be sited in such a manner that traffic, litter, odor, and fire would be mitigated and with suitable buffers between the composting facility and residential dwelling units. Buffer associated with the proposed compost facility is achieved through all non-County owned parcels immediately adjacent to the project site, as shown in Table 4.10-3, which encourages continued compatible agricultural land use and prevents encroachment of commercial or residential development. According to the *Kern County General Plan Designations and Zone District Consistency Matrix*, Map Codes 3.4, 3.4.1, and 3.7 are compatible with an A zone district. With this discretionary approval of a General Plan Amendment and modification to the CUP, the project would be consistent with the A district, which allows green waste collection, recovery, and composting facilities as a conditional use.

The Public Facilities and Services Policies and Implementation Measures associated with air quality and light and glare in Section 4.10.3 Regulatory Setting above are planned to be implemented for the composting operation, which includes all feasible mitigation to reduce significant adverse air quality impacts and compliance with Zoning Ordinance provisions to minimize impacts of nighttime glare effects on neighboring properties in the area.

Table 4.10-3: Proposed Project Site Land Uses*

APN	Proposed Land Use	Proposed Map Code Designation	Existing Map Code Designation
20.00 acres of 088-100-38 (northern buffer)	Compost Facility & Operations	3.7 (Other Waste Facilities)	3.4.1 (Solid Waste Disposal Facility Buffer)
50.27 acres of 088-100-08 (southern buffer)	Landfill Buffer	3.4.1 (Solid Waste Disposal Facility Buffer)	8.1 (Intensive Agriculture)

Source: Kern County General Plan and Kern County Zoning Ordinance via Kern County GIS

*No changes are proposed to Zoning Districts as part of the proposed project

Appendix E Map Amendment

The amendment to the “Shafter-Wasco RSLF” Appendix E map, **Figure 4.10-3, (Proposed Appendix E Map)** to show the revised permitted facility with designated buffer and compost areas is to comply with requirements of the Kern County General Plan for a Map Code 3.4 designation. The amendment to Appendix E is to ensure land compatibility for the health and safety of Kern County residents.

The Kern County Planning and Natural Resources Department adopted CUP No. 1, Map 78 in September 29, 2009 for the project analyzed in the previously certified Final EIR. As a component of the proposed project, the Public Works Department will modify the existing CUP to revise the Shafter-Wasco RSLF permitted facility boundary, allow for composting operations, and increase the facility hours of operation and hours for the receipt of waste, and include additional property as solid waste disposal facility buffer. The modified CUP shall outline specific land use conditions for the project to comply with.

Land Use & Planning Summary

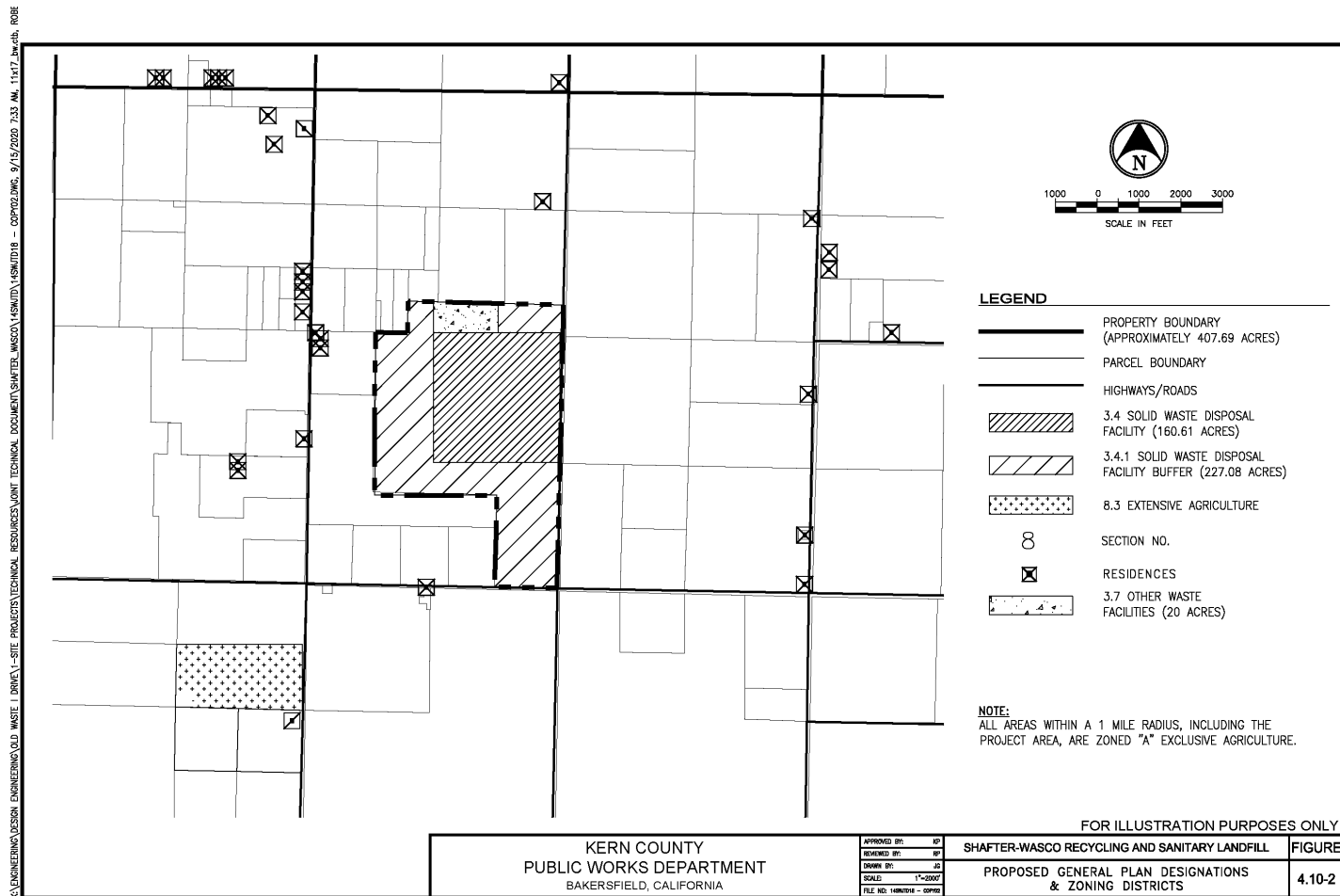
With the approval of the amendment to the General Plan and modifications to the CUP to allow for composting operation and increases to the permitted facility boundary, hours of operations, and ancillary activities, the project would be consistent with all applicable land use policies and regulations. No conflicts with an application land use plan would exist. Proposed landfill buffer activities are consistent with the existing operations and CUP on file with the Lead Agency. The *Kern County General Plan Designations and Zone District Consistency Matrix* identifies Map Codes 3.4, 3.4.1, and 3.7 to be compatible within an A zone classification. As evaluated in detail above, the project is consistent with the goals and policies of the Kern County General Plan and Kern County Zoning Ordinance. Impacts related to land use and planning would be less than significant.

Mitigation Measures

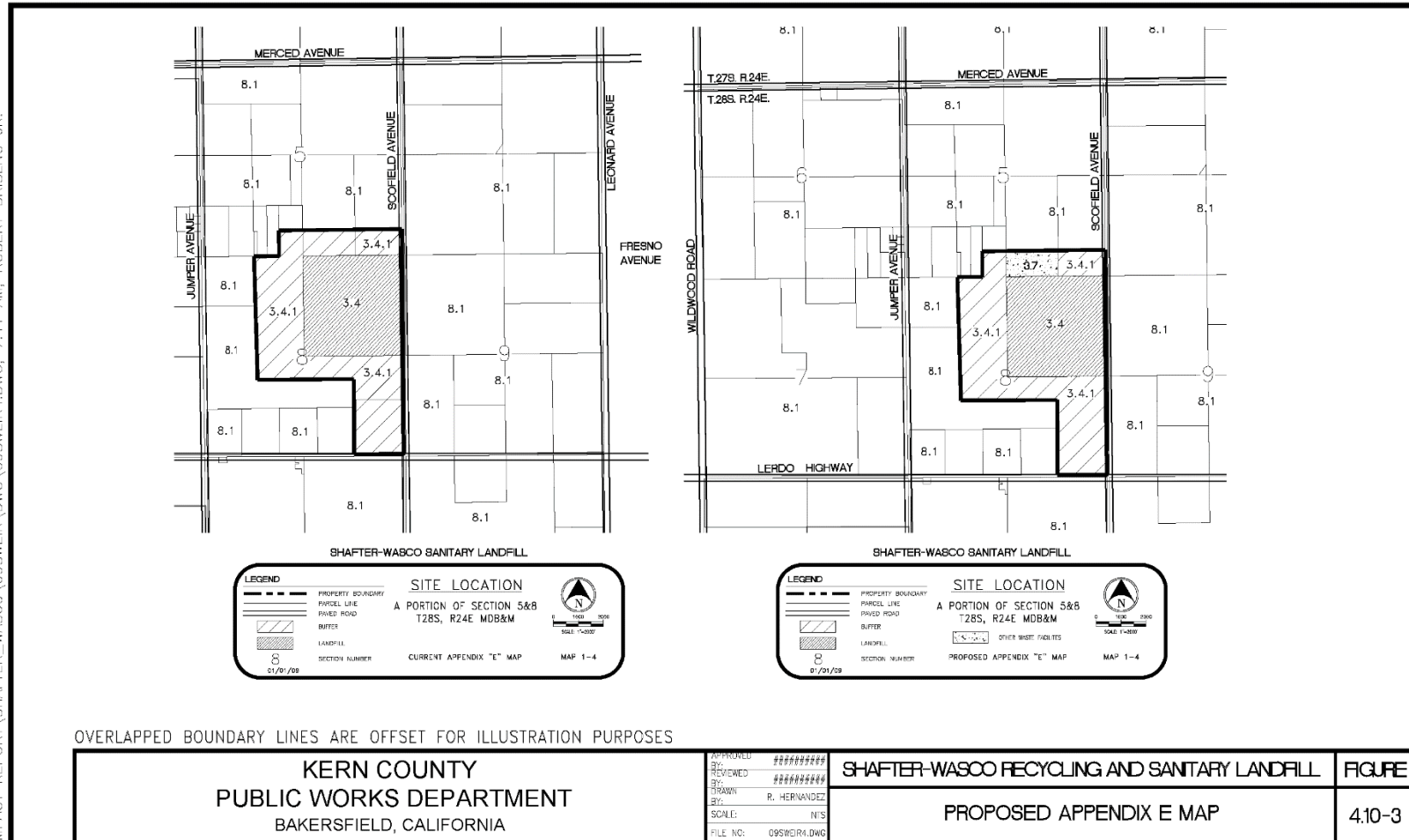
No mitigation would be required.

Level of Significance

Impacts would be less than significant.



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Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope of analysis for this chapter is the San Joaquin Valley and unincorporated areas of Kern County surrounding the project site. This scope was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this region. All related projects would be required to undergo environmental review, in accordance with the requirements of CEQA and a Lead Agency, on an individual basis because of the effects of a specific development and its immediate environment. Each related project would also be required to demonstrate consistency with all applicable planning documents and regulations governing the project site, including the Kern County General Plan and the Kern County Zoning Ordinance.

While the surrounding area is heavily rural and agricultural in nature, the project has the potential to contribute to a cumulative influence on proposed land uses in and around the project site. The project includes a request to amend the Kern County General Plan land use designations to Map Code 3.7 (Other Waste Facilities). The Kern County General Plan land use designation Map Code 3.7 (Other Waste Facilities) and Appendix F (Other Waste Facilities) is intended for non-hazardous waste facilities, including composting facilities. Amending land use designations to Map Code 3.7 and facilitating consistency with associated goals, policies, and implementation measures would create consistency between the Zoning Ordinance and the Kern County General Plan for the project site. With approval of all discretionary requests, the project would be an allowable use that would not conflict with the land use or zoning classification for the project site. As described above, the project would be consistent with the goals and policies of the Kern County General Plan. Therefore, the project would not result in a cumulatively considerable impact regarding land use and impacts would be considered less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

4.11.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed Shafter-Wasco Composting and Waste Diversion Project, which modifies the previously certified *Shafter-Wasco Sanitary Landfill Permit Revision Project EIR* and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

In addition, this chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to mineral resources associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

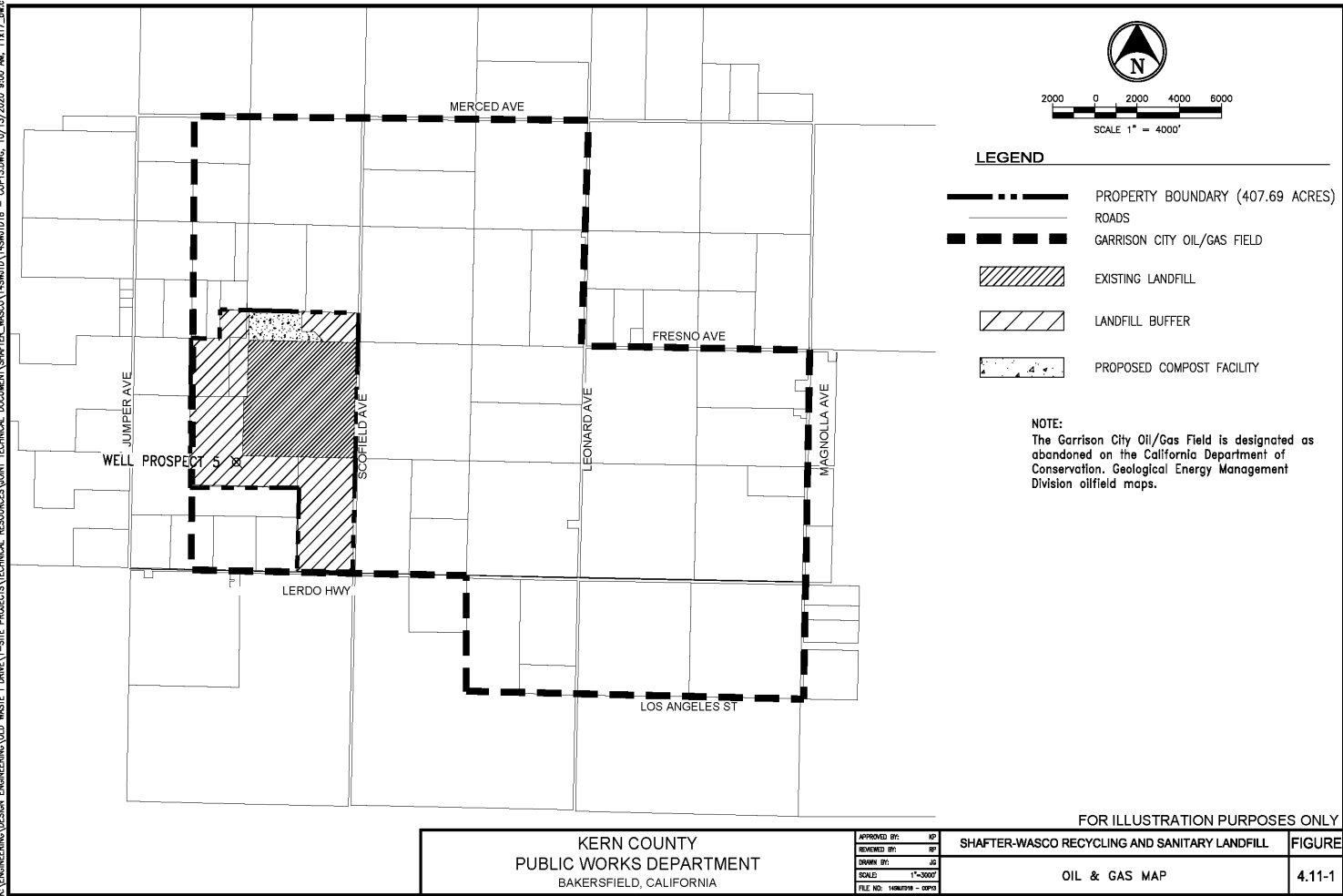
4.11.2 Environmental Setting

The environmental setting for mineral resources is the same as that described in Section 4.11.2, *Environmental Setting*, page 4.11-1 of the 2009 EIR, (Appendix B) to this SEIR.

According to the Kern County General Plan (KCGP), conflict issues may arise when oil and other mineral extraction activities, such as sand and gravel pits, are located in close proximity to residential or other incompatible land uses. Incompatible uses located in close proximity to one another, as well as health and safety questions, tend to reduce the availability of the various mineral resources and are but a few of the potential conflicts that may occur. The availability, proximity, and cost of construction aggregates are a major concern to the local economy. Without knowledge of these resources, land use conflicts could occur and preclude future excavation.

The project site is located in the Garrison City Oil/Gas Field, which is designated as abandoned on the California Department of Conservation, Geologic Energy Management Division (CalGEM) oilfield maps (see **Figure 4.11-1, Oil and Gas Map**), below.

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4.11.3 Regulatory Setting

The regulatory setting for mineral resources is the same as that described in Section 4.11.3, *Regulatory Setting*, pages 4.11-3 through 4.11-5 of the 2009 EIR (Appendix B), with the following updates. Included in the Regulatory Setting are in-depth descriptions of the following regulation: Federal Bureau of Land Management; State Reclamation and Mining Act of 1975, also noted below; State Special Publication 51; State Division of Oil and Gas and Geothermal Resources; State Division of Mines and Geology; State Geological Survey; and the Kern County General Plan (KCGP).

State

State Surfacing Mining & Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA) was passed by the California State Legislature in response to the loss of significant mineral resources due to urban expansion; the need for current information concerning the location and quantity of essential mineral deposits; and the need to ensure adequate mined-land reclamation. To address mineral resource conservation of aggregate materials, SMARA mandated the two-phase process called classification-designation. The objective of the classification-designation process is to ensure, through appropriate local lead agency policies and procedures, that mineral material will be available when needed and will not become inaccessible as a result of inadequate information during the land-use decision-making process. SMARA mandates that the State Mining and Geology Board (SMGB) develop guidelines for mineral land classification. The SMGB adopted SMARA guidelines on June 30, 1978 and revised the guidelines in 2000. In 1988, a report titled “Mineral Land Classification: Aggregate Materials in Bakersfield Production-Consumption Region” was published by the California Division of Mines and Geology.

As of October 8, 2009, an update to this report has been prepared and distributed and is currently in the lead agency review and implementation process. The lead agency is the Kern County Planning and Community Development Department, who will have the responsibility of developing and adopting mineral resource management policies, to be incorporated into the Kern County General Plan. As set forth in §2761(b) of SMARA, the State Geologist shall classify land solely on the basis of geologic factors and without regard to existing land use. Areas subject to mineral land classification studies are divided by the State Geologist into various Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral resource potential. When the 1988 classification document was written, the nomenclature for mineral land classification consisted of four categories: MRZ-1, MRZ-2, MRZ-3, and MRZ-4. Since then, the nomenclature has been expanded to include subdivisions of the MRZ-2 and MRZ-3 categories into a and b, however, the original mineral land classification categories remain valid for the local Bakersfield Production Consumption Region and were retained in the updated report.

The following is a brief description of the three MRZ categories used in the update of the Region (MRZ-4 was not used) (Department of Conservation, 2009):

- MRZ-1 Areas where available geologic information indicated that little likelihood exists for the presence of significant mineral resources.
- MRZ-2 Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to

known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.

- MRZ-3 Areas containing known or inferred mineral occurrences of undetermined mineral resources significance.

In order for a zone to be considered significant for the purposes of mineral land classification, a mineral deposit, or a group of mineral deposits that can be mined as a unit, must meet marketability and threshold value criteria adopted by the SMGB. Threshold values are intended to indicate in a general way, the approximate minimum size of a mineral deposit that will be considered significant for classification and designation. The threshold value criteria vary for different minerals depending on their uniqueness and commodity-type category.

4.11.4 Impacts and Mitigation Measures

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

Methodology

The methodology for mineral resources is the same as that described in Section 4.11.4.1, page 4.11-5, of the 2009 EIR (Appendix B), of this SEIR.

Thresholds of Significance

The Threshold of Significance section is the same as that described in Section 4.11.4.2, page 4.11-6, of the 2009 EIR (Appendix B), of this SEIR. No update has been made to the Mineral Resources portion of the Kern County CEQA Environmental Checklist since the certification of the 2009 EIR and therefore Impacts 4.11-1 and 4.11-2 are addressed below.

Project Impacts

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 residents of the state.

The proposed project is not designated as Map Code 8.4 (Mineral and Petroleum) in the Land Use, Open Space, and Conservation Element of the Kern County General Plan. The site is not designated as a mineral or petroleum valued site in the Kern County General Plan. No known deposits of economically extractable minerals, petroleum, or construction materials, other than soil, occur on the project site. No deposits of commercial grade petroleum are known to occur in the area. The project site is located in the Garrison City Oil/Gas Field, which is designated as abandoned on the California Department of Conservation, Geologic

Energy Management Division (CalGEM) oilfield maps. If the mineral rights holder has surface right of entry, drilling is allowed in an A zone by right, however, if surface right of entry is not owned by the mineral rights holder, they cannot drill on County property without express permission. The mineral rights holder will notify the County and determine an appropriate location to drill. This drilling will also require CEQA compliance prior to permitting through CalGEM. The Department shall implement Mitigation Measures MM 4.11-1 and MM 4.11-2 of the previously certified 2009 EIR and the MMMP, incorporated as referenced here, during project construction and operation in the event of the discovery of an unrecorded oil or gas well.

Consistent with information and analysis presented in the 2009 Final EIR and as part of ongoing and planned activities at the project site, the project applicant intends to transport excess soil, that is not needed for final cover or daily soil use, off-site for nearby Public Works' projects, such as burn dump remediations, road construction projects, or high-speed rail needs. Materials would be transported within the general vicinity of the project site, approximately 10-15 miles. Transportation of materials would still comply with existing permitted traffic conditions (vehicles per day) as analyzed in previous 2009 EIR. Soil movement and heavy-duty vehicles accessing and utilizing the facility (for hauling and removal of materials) is standard under current permitted landfill operations.

Intent of SMARA:

It may be concluded from Government Code §2713 that the intent of SMARA is to assure the proper reclamation of lands used for surface mining operations, through erosion control, and by a demonstration that the appropriate finances are in place to assure implementation of these controls. The project applicant will comply with the intent of SMARA; however, this can be accomplished without obtaining an additional permit.

Section 2714 (b) states, "This chapter does not apply to any of the following activities:

- (b) On-site excavation and onsite earthmoving activities that are an integral and necessary part of a construction project that are undertaken to prepare a site for construction of structures, landscaping, or other land improvements, including the related excavation, grading, compaction, or the creation of fills, road cuts, and embankments, whether or not surplus materials are exported from the site, subject to all of the following conditions:
 - (1) All required permits for the construction, landscaping, or related land improvements have been approved by a public agency in accordance with applicable provisions of state law and locally adopted plans and ordinances, including, but not limited to Division 13 (commencing with §21000).
 - (2) The lead agency's approval of the construction project included consideration of the onsite excavation and onsite earthmoving activities pursuant to Division 13 (commencing with §21000).
 - (3) The approved construction project is consistent with the general plan or zoning of the site.
 - (4) Surplus materials shall not be exported from the site unless and until actual construction work has commenced and shall cease if it is determined that construction activities have terminated, have been indefinitely suspended, or are no longer being actively pursued."

Application of conditions one (1) through four (4), relative to permitted solid waste facilities, is as follows:

- (1) Permits for the drainage, excavation, stormwater basins, and site improvements proposed in the 2009 EIR and subsequent improvements at the project site will be reviewed and approved by a

number of public agencies including, but not limited to the California Department of Resources Recycling and Recovery (CalRecycle); the Central Valley Regional Water Quality Control Board; and California Department of Fish and Wildlife, as required. The existing project site has acquired all required permits, which includes design plans incorporating stormwater and drainage basins.

- (2) Kern County as the lead agency, in considering the project for approval, reviewed the project under CEQA and certified the 2009 EIR that addressed the onsite excavation and earthmoving activities for the construction of the stormwater drainage basins.
- (3) The existing project site and the proposed project, the Shafter-Wasco Recycling & Sanitary Landfill, is consistent with the Kern County General Plan and Kern County Zoning Ordinance.
- (4) Surplus material will not be exported from the site before construction begins or after construction ends.

The exportation and transportation of surplus soil from the project site is exempt from SMARA because the onsite excavation of the stormwater drainage basins and related site improvements are integral and necessary for the construction and ongoing operation of the landfill and it meets the required conditions of Section 2714(b). Excavation of soil materials for site improvements (such as stormwater drainage basins) constitutes an engineered work or construction project and, therefore, meets the requisite conditions for exemption under §2714(b), provided the excavation also meets the criteria stated above.

Therefore, the proposed project would not be expected to result in new or substantially more adverse impacts to mineral resources related to the loss of a known mineral resource that would be of value to the region and the residence of the state.

Mitigation Measures

Implement Mitigation Measures MM 4.11-1 and MM 4.11-2, with the following updates, described in Section 4.11.4, page 4.11-7, of the previously certified 2009 EIR (Appendix B), of this SEIR; and in the Mitigation Measures Monitoring Program (MMMP) as incorporated by reference here, will be implemented to maintain a less than significant impact.

- MM 4.11-1** As recommended by the California Department of Conservation, Geologic Energy Management Division during the 2009 EIR Notice of Preparation comment period, no structure will be built over or in proximity to the abandoned well location that is located within the project area. A 10-foot-no-build radius will be established for the well area as it is shown on Figure 4.11-1, *Oil and Gas Map*, in Chapter 4.11, Mineral Resources in the SEIR.
- MM 4.11-2** If any previously unknown oil, gas or injection wells are discovered, work in the area of discovery shall be stopped and the California Department of Conservation, Geologic Energy Management Division shall be contacted by the project proponent to obtain information on the requirements of, and approval to perform, remedial operations implemented prior to resumption of work in the area of discovery. If a structure is to be built within 10 feet of a newly discovered well, the well will be exposed for inspection and leakage testing prior to construction. While exposed, the location will be ascertained by a licensed surveyor in NAD 27 Continental US coordinates.

Level of Significance

With implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, 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.

Lands associated with the proposed project are not designated as Map Code 8.4 (Mineral and Petroleum). The original project site is located within the Kern County General Plan and is within the administrative boundaries of the abandoned Garrison City Oil/Gas Field and therefore may encounter unrecorded/or recorded oil or gas wells. According to CalGEM, the original and proposed project area contains one plugged and abandoned gas well located in the southwest buffer area. Given the coordinates of this well, it was mapped and determined not to be located within the proposed project area (see **Figure 4.11-1, Oil and Gas Map**), above. Mitigation Measures MM 4.11-1 and MM 4.11-2 should be implemented to ensure that the proposed project would not 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 and would not conflict with any local general plan, specific plan, or other land use plan and impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.11-1 and MM 4.11-2

Level of Significance

With implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in **Table 3-4, Cumulative Project List**, there are seventeen (17) projects identified within the vicinity of the proposed project.

The proposed project and projects identified in **Table 3-4, Cumulative Project List**, in Section 3, *Project Description*, in this SEIR, are not designated as Map Code 8.4 (Mineral and Petroleum) in the Land Use, Open Space, and Conservation Element of the Kern County General Plan. There are no other projects within the proximity of the project that are designated as a mineral or petroleum valued site. No known deposits of economically extractable minerals, petroleum, or construction materials occur regionally. The project, either on its own or when considered cumulatively with other projects, would not restrict access to any regionally or Statewide valuable mineral or petroleum resources as designated by the State, in the Kern County General Plan, or in other land use plans. As a result, the proposed project would not result in a cumulative impact related to mineral resources and impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.11-1 and MM 4.11-2.

Level of Significance

With implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, cumulative impacts would be less than significant.

4.12.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project, which modifies the previously certified Shafter-Wasco Sanitary Landfill Permit Revision Project EIR and is being prepared pursuant to Section 15163 of the CEQA Guidelines.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to noise associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

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 is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (μPa). Sound pressure level depends not only on the power of the source but also on the distance from the source to the receiver and the acoustical characteristics of the sound propagation path (absorption, reflection, etc.).

Outdoor sound levels decrease logarithmically as the distance from the source increases. This decrease is due to wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound waves travel away from the source, the sound energy is dispersed over a greater area, decreasing the sound pressure of the wave. Spherical spreading of the sound wave from a point source reduces the noise level at a rate of 6 dB per doubling of distance. Atmospheric absorption also influences the sound levels received by an observer. The greater the distance traveled, the greater the influence of the atmosphere and the resultant fluctuations. Atmospheric absorption becomes important at distances greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (i.e., sound carries farther) than higher frequencies. Over long distances, lower frequencies become dominant as the higher frequencies are more rapidly attenuated. Turbulence, gradients of wind, and other atmospheric phenomena also play a significant role in determining the degree of attenuation. For example, certain conditions, such as temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading.

Sound from a tuning fork contains a single frequency (a pure tone), but most sounds in the environment do not consist of a single frequency. Instead, they are a broad band of many frequencies differing in sound level. Because of the broad range of audible frequencies, methods have been developed to quantify these values into a single number representative of human hearing. The most common method used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that is reflective of human hearing characteristics. Human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This process is termed "A weighting," and the resulting dB level is termed the "A-weighted" decibel (dBA).

Because A-weighting is designed to emulate the frequency response characteristics of the human ear and reflect the way people perceive sounds, it is widely used in local noise ordinances and State and federal

guidelines, including those of the State of California and Kern County. Unless specifically noted, the use of A-weighting is always assumed with respect to environmental sound and community noise, even if the notation does not include the “A.”

In terms of human perception, a sound level of 0 dBA is the threshold of human hearing and is barely audible by a healthy ear under extremely quiet listening conditions. This threshold is the reference level against which the amplitude of other sounds is compared. Normal speech has a sound level of 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, progressing to pain at still higher levels. Humans are much better at discerning relative sound levels than absolute sound levels. The minimum change in the sound level of individual events that an average human ear can detect is about 1 to 3 dBA. A 3 to 5 dBA change is readily perceived. An increase (or decrease) in sound level of about 10 dBA is usually perceived by the average person as a doubling (or halving) of the sound’s loudness.

Because of the logarithmic nature of the decibel, sound levels cannot be added or subtracted directly. However, some simple rules are useful in dealing with sound levels. First, if a sound’s acoustical energy is doubled, the sound level increases by 3 dBA, regardless of the initial sound level (e.g., 60 dBA + 60 dB = 63 dBA; 80 dBA + 80 dBA = 83 dBA). However, an increase of 10 dBA is required to double the perceived loudness of a sound, and a doubling or halving of the acoustical energy (a 3 dBA difference) is at the lower limit of readily perceived change.

Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources plus a relatively steady background noise in which no particular source is identifiable. A single descriptor, termed the equivalent sound level (L_{eq}), is used to describe sound that is constant or changing in level. L_{eq} is the energy-mean dBA during a measured time interval. It is the “equivalent” sound level produced by a given constant source equal to the acoustic energy contained in the fluctuating sound level measured during the interval. In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum instantaneous (L_{max}) and minimum instantaneous (L_{min}) noise level indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the acoustic floor for that location.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10} , L_{50} , and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, L_{50} represents the median sound level during the measurement interval, and L_{90} levels are typically used to describe background noise conditions.

The Day-Night Average Sound Level (L_{dn} or DNL) represents the average sound level for a 24-hour day and is calculated by adding a 10 dBA penalty to sound levels during the night period (10:00 p.m. to 7:00 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, State, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn} , except that an additional 5 dBA penalty is applied to the evening hours (7:00 p.m. to 10:00 p.m.). Because of the time-of-day penalties associated with the L_{dn} and CNEL descriptors, the 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
dB	Decibel	Decibels, which are units for measuring the volume of sound, are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 dB sounds are 10 times more intense than 1 dB sounds, and 20 dB sounds are 100 times more intense. A 10 dB increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of high- and low-frequency noise. It was designed to approximate the response of the human ear to sound.
CNEL	Community Noise Equivalent Level	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7 p.m. to 10 p.m.) and a 10 dBA penalty for sleeping hours (10 p.m. to 7 a.m.).
L_{dn}	Day-Night Average Noise	The 24-hour average sound level, expressed in a single decibel rating, for the period from midnight to midnight obtained after the addition of a 10 dBA penalty to sound levels for the periods between 10 p.m. and 7 a.m.
L_{eq}	Equivalent Noise Level	The average acoustic energy content of noise for a stated period of time. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
L_{max}	Maximum Noise Level	L_{max} represents the maximum instantaneous noise level experienced during a given period of time. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
L_{min}	Minimum Noise Level	L_{min} represents the minimum instantaneous noise level experienced during a given period of time. It reflects baseline operating conditions and is commonly referenced as the noise floor.
L_1 , L_{10} , L_{50} , L_{90}	Percentile Noise Exceedance Levels	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
L_1 , L_{10} , L_{50} , L_{90}	Percentile Noise Exceedance Levels	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.

Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA, 2006), 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, 2006). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. 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, 2006).

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, 2006).

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

The environmental setting for noise is the same as that described in Section 4.12.2, of the 2009 EIR, Appendix B of this SEIR, with the following updates.

Project Setting

The area designated for the construction and operation of the compost facility (west of the existing diversion area) and enhanced self-haul program (within existing diversion area) is surrounded by existing landfill and diversion activities. The existing ambient noise environment is influenced primarily by landfill and diversion operations requiring the use of heavy construction equipment for general waste disposal, waste compaction, movement of soils, and the handling, processing, and transportation of diverted waste materials. Inbound and outbound vehicular traffic hauling wastes and materials contribute to associated noise levels and current ambient noise. The lands designated for solid waste facility buffer is currently under agricultural lease and adjacent to existing landfiling operations and heavy equipment. Standard agricultural vehicles maintain the land and harvest the crops.

The previous residential dwelling located 750 feet south of the landfill has been abandoned since the 2009 EIR was certified. There are five rural residential dwellings – two residences 1.5 miles to the west, one residence 1.25 miles to the south, one residence 1.0 mile to the north, and one residence one-half mile to the west of the project boundary. No commercial development exists in the immediate vicinity. There are no sensitive receptors in the vicinity of the proposed project site.

4.12.3 Regulatory Setting

The regulatory setting for noise is the same as that described in Section 4.12.3 of the 2009 EIR, Appendix B, of this SEIR, with the following updates.

Federal

Noise Control Act of 1972 (42 USC 4910)

This act establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. To accomplish this, the act establishes a means for the coordination of federal research and activities in noise control, authorizes the establishment of federal noise emissions standards for products distributed in commerce, and provides information to the public with respect to the noise-emission and noise-reduction characteristics of such products.

USEPA Recommendations in “Information on Levels of Environmental Noise Requisite to 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 United States Environmental Protection Agency (USEPA) provided guidance in this document, commonly referenced as the “Levels Document,” that establishes an L_{dn} of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. 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 standard stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA. 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.

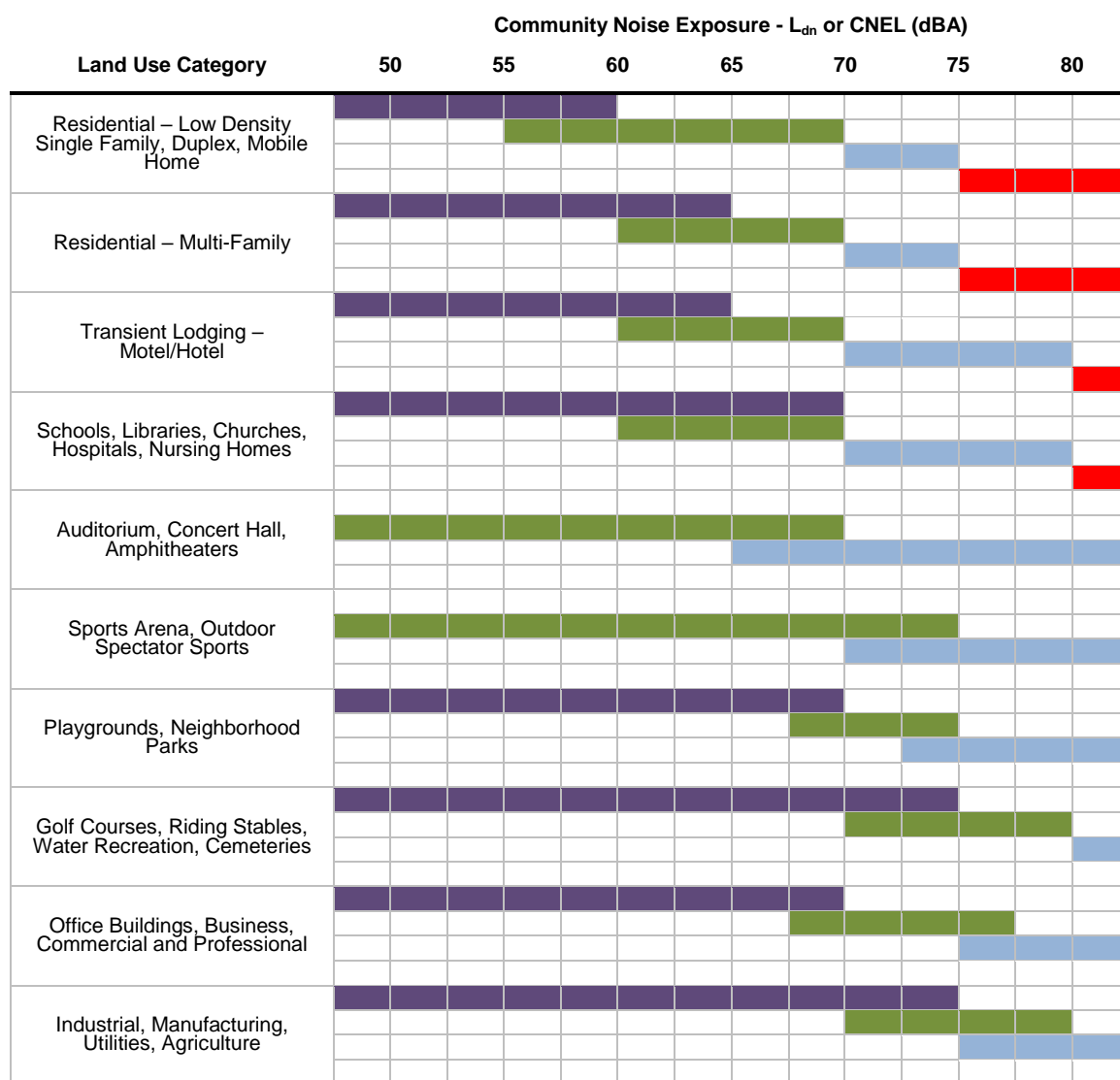
State





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 Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or DNL, establishing noise/land use compatibility criteria, and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most cities and counties have also adopted noise ordinances which serve as enforcement mechanisms for controlling noise.

The State of California, Governor's Office of Planning and Research (OPR) land use compatibility for community noise environment chart (OPR, 2003) identifies the normally acceptable range for several different land uses, as shown in **Figure 4.12-1, *Land Use Compatibility for Community Noise Environment***. Persons in low-density residential settings are most sensitive to noise intrusion, with noise levels of 60 dBA CNEL and below are considered "acceptable." For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels go up to 70 dBA CNEL.

CEQA Guidelines (PRC Section 21000 et seq.) requires the identification of "significant" environmental impacts and their feasible mitigation. Section XI of Appendix G to the CEQA Guidelines (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading "Thresholds of Significance".

Figure 4.12-2 Land Use Compatibility for Community Noise Environment

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: OPR, 2003.

Local

Kern County General Plan

The Noise Element of the Kern County General Plan is a mandatory element as required by California Government Code Section 65302(f). The state requires that local jurisdictions prepare statements of policy indicating their intentions regarding noise and noise sources, establish desired maximum noise levels according to land use categories, set standards for noise emission from transportation and fixed-point sources, and prepare implementation measures to control noise. 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 major purpose of the County's Noise Element is to establish reasonable standards for maximum desired noise levels in the County, and to develop an implementation program which could effectively mitigate potential noise problems. The implementation measures have been designed so that they will not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn} , and interior noise levels in excess of 45 dBA L_{dn} .

Applicable goals, policies, and implementation measures from the Noise Element of the County's General Plan relevant to the proposed project are summarized below.

Chapter 3, Noise Element

Since the certification of the 2009 EIR, the goals and policies from the Noise Element remain unchanged. However, goals and implementation measures were not summarized.

Goals

- Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.
- Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

- Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses,
- Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise,
- Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 6: Ensure that new development in the vicinity of airports will be compatible with existing and projected airport noise levels as set forth in the ALUCP,
- Policy 7: Employ the best available methods of noise control.

Implementation Measures

- Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.
- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure E: Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.
- Measure F: Require proposed commercial & industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
- a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.
- Measure I: Noise analyses shall include recommended mitigation, if required, and shall:
- a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10-20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
 - c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
 - d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.
- Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Kern County Code of Ordinances

Noise issues are addressed in Chapter 8.36 of the Kern County Code of Ordinances. These include acceptable hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities that are audible to a person with average hearing ability

at a distance of 150 feet from the construction site, or if the construction site is within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 p.m. to 6:00 a.m. on weekdays, and 9:00 p.m. to 8:00 a.m. on weekends.

However the following exceptions are permitted:

1. The resource management director or a designated representative may for good cause exempt some construction work for a limited time.
2. Emergency work is exempt from this section.

Groundborne Vibration

There are currently no federal, State, or local regulatory standards for groundborne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance (Caltrans, 2020). Caltrans' threshold criteria pertaining to building damage and human annoyance, for continuous and transient events, are summarized in **Table 4.12-2, Land Use Compatibility for Community Noise Environment** and **Table 4.12-3, Vibration Criteria for Structural Damage** 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.

in/sec PPV = inches per second peak particle velocity

Source: Caltrans, 2020.

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.

in/sec PPV = inches per second peak particle velocity

-- Not available.

Source: Caltrans, 2020.

4.12.4 Impacts and Mitigation Measures

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

Methodology

The methodology for mineral resources is the same as that described in Section 4.12.4.1 of the 2009 EIR, with the following updates,

To assess potential and temporary project construction noise impacts generated during the operation of construction equipment on the project site, the County, in its Chapter 8.36 of the Kern County Code of Ordinances, includes acceptable hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors. As stated in Section 4.12.3, *Regulatory Setting*, noise producing construction activities are prohibited between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends, when they are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or if the construction site is within 1,000 feet of an occupied residential dwelling. The County, as Lead Agency, has not established any noise level limits for construction activity.

To assess potential project operational noise impacts and the potential substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, noise levels generated during operation of the proposed project would be compared to noise standards identified by Kern County. Kern County's Noise Control Ordinance (KCC 8.36) does not identify specific noise limits related to operation of a facility. Section 19.80.030(S) of the Kern County Zoning Code indicates that non-mobile sources of noise within 500 feet of property developed and zoned for residential use (E, R-1, R-2, and R-3)

shall not exceed 65 Ldn. The code also states that between the hours of 10 p.m. and 7 a.m., the source should not result in an increase of 5 dBA or more over ambient levels. There are no residences within 500 feet of the project site; the nearest residential dwelling associated with agricultural activity is ½ mile west of the property boundary and zoned A (Exclusive Agricultural). Therefore, this section of the Kern County Code does not apply to the proposed project.

To assess potential impacts to exposing people residing or working in the project area to excessive noise levels within an airport land use plan, Kern County Airport Land Use Compatibility Plan was referenced to illustrate the sphere of influence and location to public or private airports.

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on noise resources, if it would:

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a 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
- 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

Impact 4.12-1: The project would cause generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.

The proposed project's noise impacts are consistent with existing ambient noise conditions and planned landfill and diversion area operations resulting from the operation of heavy equipment and from inbound self-haul and municipal solid waste hauler traffic. Existing landfill operations utilize off-road heavy equipment and construction equipment. Existing diversion operations utilize a variety of ancillary equipment and vehicles such as a slow-speed shredder, screening machine, horizontal grinder, sorting line, loaders, water truck, utility trucks, tub grinder, and baler. Existing in-bound and out-bound vehicles include municipal and franchise collection vehicles, commercial vehicles (such as roll-off and end-dump vehicles), and self-haul vehicles. An increase in landfill traffic resulting in additional noise is not being proposed under this project. Proposed operations will adhere to currently permitted traffic volumes levels.

Temporary and short-term noise impacts are anticipated during the construction of the composting facility and self-haul dumping pad. Construction activities associated with the composting system consists of improvements and construction of concrete bunkers with sidewalls, push walls, and aeration trenches;

underground and aboveground piping; water trap and collection sumps; pump station manhole; electrical conduit; site preparation, earthwork, final grading, and drainage; control and monitoring building; leachate piping and sump install; 4 x 10,000 gallon aboveground storage tanks containment and foundation; pumps, controls, wiring, valves and meters; air supply compressor; mobilization; concrete hardware and finishing; architectural coating; final site work and associated controls, valves, fittings, and bollards. Heavy, light-duty, and support equipment will complete earthwork needs, in general, consisting of mobilization and demobilization, excavation, backfilling, compaction, subgrade preparation, and trenching. Construction of the facility may occur in two phases. Construction of Phase 1 would be constructed, then operations of Phase 1 would run concurrent with the construction of Phase 2. The project proponent may choose to construct a complete build-out, Phase 1 and Phase 2, at one time over a single year. Regardless of the phasing, construction of the proposed project is expected to occur over approximately 235 days. Site preparation is anticipated to occur over a 10-day period, grading over a 20-day period, and architectural coating over a 30-day period. Construction, which includes the bulk of the improvements and activities presented above, is anticipated to occur over 175 days. However, construction activities would be consistent with the Kern County Noise Element and Chapter 8.36 of the Kern County Code of Ordinances. The project would not generate construction noise between the hours of 9:00 p.m. and 6:00 a.m. on weekdays or 9:00 p.m. and 8:00 a.m. on weekends.

Current ambient noise conditions are already influenced by existing heavy equipment and light duty landfill equipment currently operating at the site, and would continue to be used under the proposed project, therefore no additional noise impacts would be anticipated beyond existing noise conditions. Noise from on-site equipment is controlled using proper mufflers. Additionally, on-site equipment is not operated continuously. No additional heavy equipment is anticipated to be added to existing operations related to the proposed increase in hours for the receipt of waste or 24-hour ancillary activities. An additional loader and tarping machine are anticipated to be added to the fleet of equipment for the composting and self-haul operations. The composting system and its associated units (such as blowers, pumps, tarping machine, etc.) would not generate a substantial increase in ambient noise levels.

The proposed change from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) provides an additional 50.21 acres of landfill buffer preventing to encroachment of residential or sensitive receptor development. Additionally, landfill buffer provides an area between noise generation and the route of the travelling public and landfill, composting, and self-haul operations. Existing and proposed land uses are consistent with the Kern County General Plan and Kern County Zoning Ordinance. Utilizing zoning regulations assists in achieving noise-compatible land use patterns. There are no known sensitive receptors (residential areas, schools, acute care hospitals, recreational areas, or churches) within the project vicinity that would be subject to noise impacts. The nearest dwelling is a single residential unit approximately one-half mile west of the site. There is no record on file of noise complaints from the surrounding landowners. The previous residential dwelling located 750 feet south of the landfill has been abandoned since the 2009 EIR was certified.

The project would not cause generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. Adherence to the Kern Count Noise Element and utilizing existing zoning regulations assists in achieving noise-compatible land use patterns. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-2: The project would cause generation of excessive ground borne vibration or ground borne noise levels.

Existing landfill operations utilize off-road heavy equipment and construction equipment. Existing diversion operations utilize a variety of ancillary equipment and vehicles such as a slow-speed shredder, screening machine, horizontal grinder, sorting line, loaders, water truck, utility trucks, tub grinder, baler, and biomass module. Existing in-bound and out-bound vehicles include municipal and franchise collection vehicles, commercial vehicles (such as roll-off and end-dump vehicles), and self-haul vehicles. Construction equipment is utilized on a routine basis for scheduled construction projects, environmental monitoring well installations, and other miscellaneous improvement projects. No increase in traffic beyond currently permitted levels is being proposed for composting or self-haul operations. A single residential dwelling is one-half mile west of the proposed project, and there are no commercial developments in the immediate vicinity. No permanent structures exist on site that would be impacted by vibration or noise levels through the construction and operation of the composting and self-haul facilities.

Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernable, but without the effects associated with the shaking of a building there is less adverse reaction. Groundborne vibration during construction activity is temporary and would cease to occur after project construction is completed. The proposed project would require the use of graders, bulldozers, scrapers, excavators, compactors, dump trucks, and other construction equipment. However, construction and operation of the various components of the project would be over 1,000 feet from the nearest sensitive receptor. Groundborne vibration (and related groundborne noise) dissipate rapidly travelling over a distance and would be minimal to non-existent at 1,000 feet. Because the existing baseline for noise is as an operating sanitary landfill with auxiliary recycling and diversion activities, where equipment is currently in use on a continual basis, the project would not result in a substantial increase of ground borne vibration or ground noise levels in the area.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-3: The project would cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Onsite Equipment

Current ambient noise levels (as identified in Impact 4.12.1 and Impact 4.12.2) are a result of existing off-road heavy equipment and associated ancillary diversion equipment mandatory for landfilling and diversion activities and of heavy-duty refuse collection, commercial end-dump, franchise haulers, and residential vehicles. Temporary noise impacts are anticipated during the construction of the proposed project, as described in detail above.

Excavation and grading activities tend to generate the highest noise levels because earthmoving equipment, in general, are the noisiest of construction equipment. Construction is expected to require a number of graders, bulldozers, scrapers, excavators, compactors, and dump trucks. According to the Federal Highway Administration (FHWA, 2006), the maximum noise levels of planned construction equipment for this project, based on a reference distance of 50 feet from the equipment, include: grader, dozer, scraper, excavator, concrete truck, backhoe, front end loader at 85 dBA; compactor at 94 dBA.; and dump truck and tractor at 80 dBA.

The transportation of construction equipment could result in a relatively high single event noise exposure potential causing intermittent noise nuisance; however, the effect on long-term ambient noise levels would be minimal. And comparatively, existing noise resulting from current in-bound refuse collection vehicles, commercial end-dumps, and franchise haulers produce a noise consistent with that of in-bound construction equipment. No permanent increase in ambient noise levels are proposed. There will not be a substantial permanent increase in ambient noise levels. Consistent with the 2009 EIR, operations would remain below 85 dBA at the site boundary. The proposed composting operation is located on an isolated parcel of land, surrounded by landfill and diversion activities and encompassed by surrounding agricultural land use and additionally landfill buffer lands. No increase in traffic beyond currently permitted levels is being proposed for composting or self-haul operations, and therefore would not result in a permanent increase in ambient noise levels in the project vicinity above levels existing currently. Through the use of existing equipment and site conditions that meet the noise thresholds as stated in local ordinances and codes, operational-related sound levels would remain less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-4: 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.

Consistent with the analysis of the certified 2009 EIR, the proposed project does not fall within any specific airport sphere of influence identified in the Kern County Airport Land Use Compatibility Plan. The nearest

public airports are the Wasco Airport and Miner Field Airport, 10 miles northeast and 13.8 miles east of the site, respectively, therefore no impacts would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The proposed composting and self-haul operations are located within the existing boundary of the landfill, which includes an isolated parcel of land and is separated from off-site land uses by buffer property owned by the County. Due to distance to other projects in the area, there is no potential for the proposed project to result in a cumulative noise impact to the area. Due to the localized nature of noise impacts, the proposed project would not contribute to significant cumulative noise impacts. Construction activities associated with other projects in proximity to the project may occur at the same time as the proposed project. However, projects would be subject to Kern County noise and land use standards and established thresholds pertaining to sensitive receptors. Therefore, the proposed project would not result in a cumulative impact related to noise and would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.13

Utilities and Service Systems

4.13.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to utilities (water supply, wastewater, storm water, and solid waste disposal) associated with the proposed project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

The project proponent has a well sharing agreement with Semitropic Water Storage District (Semitropic) allowing the use of 320 acre-feet per year from the on-site and existing well. The well sharing agreement provides for capacity rights. The project is also governed by Semitropic’s Intermittent Water Service Agreement (IWSA). The IWSA provides for non-contract water use. Each of these agreements govern delivery of water to the project’s parcel. As determined by the Lead Agency, a Water Supply Assessment is not required for the project as these agreements are sufficient to provide water supply needs for the proposed project.

4.13.2 Environmental Setting

The environmental setting for utilities and service systems is the same as that described in Chapter 4.13.2 – *Utilities and Service Systems, Environmental Setting*, pages 4.13-1 through 4.13-2 – of the 2009 EIR, Appendix B, of this SEIR, with updates.

The Shafter-Wasco Recycling & Sanitary Landfill is a Class III municipal solid waste sanitary landfill, permitted to operate under the provision of the California Code of Regulations (CCR), Title 27. The site is identified in the CalRecycle database as Solid Waste Information System (SWIS) number 15-AA-0057 and is operated in compliance with federal, state, and local statutes and regulations. Periodic inspections by the Kern County Public Health Services Department, Environmental Health Division, acting as the Local Enforcement Agency (LEA), ensure that the facility is operated in accordance with applicable statutes and regulations. The operation of the landfill under a revised permit would be in compliance with applicable statutes and regulations.

Water Supply

Consistent with the 2009 EIR, existing operations are eight miles west of the City of Shafter, California in the unincorporated, rural area of Kern County. The project site is located outside the boundaries of the City of Shafter municipal wastewater treatment plant's service area. The landfill and associated diversion operations are served by the Semitropic Water Storage District.

Existing water supply needs at the project site water is provided from an onsite well and is used for dust control measures, firefighting, and facility needs. There are two existing County-owned water systems on site. One well produces 60 gallons per minute for the 10,000-gallon water tank. The other water supply has a pump rated to produce 500 gallons per minute and a steel tank with a capacity of 63,400 gallons. The tank is used to fill water trucks using one of two 400-gpm pumps. Water from these wells are not potable. In addition to the two existing County-owned wells, the project proponent and the Semitropic Water Storage District entered into a Well Sharing Agreement in 2018. The agreement allowed Semitropic to install a well on County-owned property (APN 088-100-08) south of the existing operating area. The County and project proponent have rights to 320 acre-feet of water per year from the well or 18.3% of the actual production capacity of the well. One septic tank serves the gatehouse located at the entrance of the project site.

The existing landfill and diversion programs consume water for dust control, fire suppression needs, handling and processing of diverted materials, gatehouse utility, as well as for auxiliary uses onsite. Existing operations averages 24.26 acre-feet of water usage per year and provided by County-owned water supply wells and tanks onsite.

Water bearing zones beneath the site consist of confined, unconfined, and perched aquifers. In September 2018, the unconfined groundwater surface was measured in the landfill water well at a depth of 342 feet below grade surface. Current depth to the highest perched aquifer is approximately 70 to 85 feet below grade surface. The predominant flow direction is to the east-northeast. The project site has an existing groundwater monitoring system, consisting of background, compliance, and evaluation monitoring program wells, to monitor the groundwater quality. The unconfined aquifer is replenished by the surrounding Temblor, Sierra Nevada, and San Emidio mountains, the Kern River, the Kern Water Bank, and recharge from precipitation and irrigation. Accordingly, there is a continuous base flow recharge of the unconfined aquifer that will provide water supplies during normal, dry, and multiple dry years.

Water supply is provided by the Semitropic Water Storage District within the boundary of the Kern County Subbasin and located within the Tulare Lake Region of the Central Valley. Beneficial users serviced within the boundaries consist of agricultural, municipal and domestic, industrial, and environmental. Groundwater is used in this region to support agricultural, production, and industrial practices that support the economic viability of local communities.

Stormwater

The project site is on the floor of the southern San Joaquin Valley. The designated beneficial uses of Valley floor waters are agricultural supply; industrial service and process supply; water contact and non-contact water recreation; warm freshwater habitat; preservation of rare; threatened and endangered species, and groundwater recharge. The project is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 255. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 255, are municipal and domestic water supply, agricultural supply, industrial service supply, and wildlife

habitat. Surface drainage is toward the Semitropic Hydrologic Area of the Tulare Lake Basin. According to the United State Geological Survey topographical maps, there are no existing waterways in the immediate vicinity of the project site.

Consistent with the analysis presented in the 2009 EIR, onsite soils are silty to sandy and are capable of infiltrating water relatively rapidly. Stormwater from smaller storms infiltrates to the subsurface. Larger storm events are conveyed, where applicable, via the existing stormwater drainage system by means of berms, channels, v-ditches, piping, and ponds.

With the issuance of an Approved Jurisdictional Determination, the United States Army Corps of Engineers determined that the Shafter-Wasco Recycling & Sanitary Landfill does not contain waters of the United States. Therefore, the landfill is not subject to National Pollutant Discharge Elimination System (NPDES) requirements. On March 2, 2015, the project proponent submitted a Notice of Termination to remove the project site from NPDES requirements. The project site has existing best management practices established and implemented to control and manage stormwater.

Solid Waste

The Shafter-Wasco Recycling & Sanitary Landfill (RSLF), permitted to operate under the provisions of Title 27 CCR, is an active public Class III municipal solid waste disposal facility, owned by the County of Kern and operated by the project proponent since July 1972 that serves an area of 2,075 square miles, including the cities of Shafter, Wasco, Delano, McFarland, Bakersfield (northwest region) and the unincorporated communities of Glennville, Lost Hills, and Buttonwillow. The landfill services the residential, commercial, and agricultural waste and recycling needs of the County of Kern. Current operations receive waste from Public Works Department owned and operated transfer stations, including but not limited to, Buttonwillow, Glennville, McFarland-Delano, and Roberts Lane. All applicable permits and approvals governing the project are presented in detail in Chapter 3, *Project Description*. The site is permitted to receive municipal solid waste, agricultural waste, construction and demolition waste, non-friable asbestos, industrial waste, compostable materials, dead animals, and inert debris. The site is permitted to operate several diversion programs, as described in Chapter 3, *Project Description*.

The Kern County Public Works Department, being the project applicant itself, administers or sponsors several recycling programs across the incorporated and unincorporated regions of Kern County, which contribute toward meeting state-mandated solid waste diversion goals. The project proponent operates landfills and transfer stations throughout Kern County. The Shafter-Wasco RSLF would serve the solid waste management needs of existing and proposed operations.

4.13.3 Regulatory Setting

The regulatory setting for utilities and service systems is the same as that described in Chapter 4.13.3 – *Utilities and Service Systems, Regulatory Setting*, pages 4.13-3 through 4.13-4 – of the 2009 EIR, Appendix B, of this SEIR, with updates.

State

Regional Water Quality Control Board (RWQCB)

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. The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Central Valley RWQCB.

California Department of Water Resources (DWR)

The DWR is a department within the California Resources Agency. DWR is responsible for the State of California's management and regulation of water usage.

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 610 and Senate Bill 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in five-year increments for a 20-year projection.

Sustainable Groundwater Management Act

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 SGMA 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 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. 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.

Integrated Solid Waste Management Act of 1989 (Public Resources Code 40050, et seq.) or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989, all cities in California are required to reduce the amount of solid waste disposed in landfills. Assembly Bill (AB) 939 required a reduction of 25 percent by 1995 and 50 percent by 2000. AB 939 required all California cities, counties, and approved regional solid waste management agencies responsible for enacting comprehensive plans and implementing programs. Kern County, and Kern County Public Works Department (as the project proponent) are responsible for meeting AB 939 requirements. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities. The California Department of Resources Recycling and Recovery (CalRecycle) oversees and aids local governments as they develop and implement plans to meet the mandates of the IWMA and subsequent legislation. AB 939 established an integrated waste management hierarchy to guide CalRecycle and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. 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.

California Solid Waste Reuse and Recycling Access Act of 1991 (California Public Resources Code 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.

Senate Bill 1383, Short-Lived Climate Pollutants

In September 2016, Governor Brown signed into law SB 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The new law codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605 (Lara, Chapter 523, Statutes of 2014), to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to CalRecycle, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent recycling, composting, or source reduction of materials by 2025 established by targeting agricultural material, food material,

vegetative food material, manure, and other compostable, organic, and recyclable materials. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Assembly Bill 876, Organics Management Infrastructure Planning

Assembly Bill (AB) 876 (McCarty, Chapter 593, Statutes of 2015) addresses longer term planning for organics infrastructure by requiring counties and regional agencies to report the information in their Electronic Annual Report. Under AB 876, Organics Infrastructure Planning requires counties to quantify the amount of organic waste that will be generated in the county over the next 15-year period and identify new or expanded organic material recycling facilities that will be able to handle this material.

Assembly Bill 1045, Organic Waste: Composting

Assembly Bill 1045 (Irwin, Chapter 596, Statutes of 2015) requires the California Environmental Protection Agency in coordination with CalRecycle, the SWRCB, the State Air Resources Board, and the Department of Food and Agriculture to develop and implement policies to aid in diverting organic waste from landfills by promoting the composting of specified organic waste and by promoting the appropriate use of that compost throughout the state. AB 1045 requires the agency to promote a goal of reducing at least 5 million metric tons of greenhouse gas emissions per year through the development and application of compost on working lands and would require the agency to work with the Department of Food and Agriculture to achieve this goal.

Local

Semitropic Water Storage District

The Semitropic Water Storage District (Semitropic) is one of eight water storage districts in California and is the largest in Kern County. Semitropic delivers water to nearly 300 customers for the irrigation of approximately 140,000 acres for agricultural uses. Semitropic also supplies energy to a variety of users and provides groundwater banking and storage services. Established in 1958, Semitropic covers an area of more than 220,000 acres. It began as an irrigation district for the purpose of securing State Water Project supplies to reduce groundwater overdraft. In the early 1990s, Semitropic began its groundwater storage program in response to several challenges from the 1980s, including groundwater overdraft, rising energy costs, rising water costs, water shortages, and poor agricultural economy. The development of the Semitropic Water Storage Bank was based on three primary objectives: 1) increase water supply reliability; 2) decrease the cost of water for irrigation; and 3) correct overdraft in the groundwater basin. Semitropic currently banks 700,000 acre-feet of water in a groundwater storage bank with a capacity of 1.65 million acre-feet. The banking program contributes to meeting the drought-year needs of more than 20 million people at 15 to 20 gallons per day (Semitropic, 2019).

Semitropic prepared a GSP to comply with the SGMA. According to SGMA, groundwater basins in California that have been classified as high or medium priority must correct current overdraft conditions in order to reset the balance of groundwater input/output as an effort to reach sustainability by the year 2040. This plan was written in conjunction with and in support of a basin wide GSP drafted on behalf of the Kern Groundwater Authority (KGA). The KGA represents 15 member agencies within the boundary of the Kern

County Subbasin which are joined together by the adoption of a Joint Powers Agreement (JPA). This plan provides the required elements of a GSP and identifies an initial path for sustainable management of Semitropic's portion of the Subbasin. Once fully implemented, projects and management actions described are expected to reduce the groundwater pumping as necessary to avoid an "undesirable result," (as defined by SGMA), including but not limited to significant and unreasonable (i) water quality degradation, (ii) land subsidence, and (iii) chronic lowering of groundwater levels. There are no adjudicated areas or incorporated cities within the Semitropic Area. There are a number of de minimis domestic water users and multi-parcel water systems located within the Semitropic Area, which are covered by this GSP.

Kern County General Plan

The Kern County General Plan provides guidance on public utilities and related services. Sections of the plan that are relevant to the proposed project are included below.

1.4 Public Facilities and Services

Goal

Goal 1 Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Policies

Policy 1 New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.

Policy 3 Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

Implementation Measures

Measure C Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D Involve utility providers in the land use and zoning review process.

1.10 General Provisions

1.10.1 Public Services and Facilities

Policies

Policy 9 New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15 Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

- Policy 16 The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

- Measure 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.

4.13.4 Impacts and Mitigation Measures

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

Methodology

The methodology for utilities and service systems is the same as that described in Section 4.2.4 of the 2009 EIR, with the following updates. The evaluation of impacts in this analysis is based on professional judgment, analysis of the County's land use policies, and significance criteria established in the Kern County CEQA Environmental Checklist.

As presented in Section 4.13.1, *Introduction*, there are two agreements that govern delivery of water to the project's parcel. The project proponent has a well sharing agreement with Semitropic allowing the use of 320 acre-feet per year from the on-site and existing well. The project is governed by Semitropic's IWSA. As determined by the Lead Agency, a Water Supply Assessment is not required for the project. Potential impacts to the utilities and service systems, including the water supply, associated with construction and operation of the project were evaluated qualitatively and quantitatively. Current data obtained from the project proponent, the County, and State of California regarding the capacity of local infrastructure and solid waste management goals were used to identify potential impacts.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine if a project could potentially have a significant adverse effect

related to utilities and service systems. A project could 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 sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Project Impacts

Impact 4.13-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Construction

Water required during construction would be supplied by the existing onsite water supplies (wells and tanks) that are currently used to operate the existing landfill operation and diversion programs. Project construction would not require updates to the existing well, nor would it require an additional supply of water from offsite. Existing well capacity and water infrastructure is sufficient to provide water needed for construction. Water used onsite for construction would be used for activities such as dust suppression, concrete manufacturing, truck wheel washing, equipment washing, soil compaction, and fire safety.

Electrical power will be required to operate the electrical components and environmental monitoring system of the proposed composting facility and would be completed during construction. However, existing electrical power infrastructure exists on site for the additional power demand.

Stormwater drainage for the waste management unit and diversion areas at the project site is currently managed via the existing stormwater drainage system by means of berms, channels, v-ditches, piping, and retention/detention ponds. No changes to the design of the existing landfill stormwater management system is required for the expansion of landfill operations. However, the proposed composting facility would result in the construction of new stormwater facilities through the construction of new impervious surfaces. These new impervious surfaces would result in a total increase in impervious surfaces onsite of approximately 8.5 acres. Impervious surfaces can result in increased stormwater discharge, by preventing stormwater infiltration into the subsurface. Nonetheless, stormwater generated from the project would be managed

onsite, and the existing stormwater management system is sufficiently sized in accordance with existing regulatory requirements, so as to contain anticipated onsite stormwater flows.

Stormwater would be managed under the project proponent's Waste Discharge Requirements (WDR). The existing operations currently hold a site-specific WDR, adopted by the RWQCB. The WDR would need to be revised to reflect operational and drainage changes associated with this project and perhaps additional regulatory requirements imposed by the SWRCB. Additionally, the project is required to comply with the General Waste Discharge Requirements for Composting Operations issued by the SWRCB, which includes design and construction requirements for planning composting operations. Site improvements would be consistent with the General WDR for Compost Operations to meet the SWRCB's specifications and to protect the quality of groundwater. In compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a Stormwater Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction that would include best management practices for runoff control. The SWPPP would provide proper control and treatment, if necessary, of any stormwater prior to discharge. Therefore, with the compliance under regulatory requirements and use of the existing stormwater management system, this impact would be less than significant.

During construction, a minimal volume of sanitary wastewater would be produced by construction workers. Wastewater would be contained within portable toilet facilities and disposed of at an approved disposal site. No additional water, power, natural gas, or wastewater treatment would be required for the expansion of landfill hours of operation nor for the ancillary activities or operations and maintenance activities as described in Chapter 3, *Project Description*. The project does not require the relocation or construction of new or expanded water, wastewater treatment, telecommunications facilities, or natural gas. Impacts during construction activities would be less than significant.

Operation

Existing water supply needs at the project site water is provided from an onsite well and is used for dust control measures, firefighting, and facility needs. There are two existing County-owned water systems on site. One well produces 60 gallons per minute for the 10,000-gallon water tank. The other water supply has a pump rated to produce 500 gallons per minute and a steel tank with a capacity of 63,400 gallons. The tank is used to fill water trucks using one of two 400-gpm pumps. The existing water supply system would continue to service the proposed project needs for composting operations, expanded landfill operations, and ancillary activities and would not require or result in the relocation or construction of new or expanded water. The project proponent and the Semitropic Water Storage District entered into a Well Sharing Agreement in 2018. The agreement allowed Semitropic to install a well on County-owned property (APN 088-100-08) south of the existing operating area. The County and project proponent have rights to 320 acre-feet of water per year from the well or 18.3% of the actual production capacity of the well.

Existing landfill and diversion program operations utilize 24.26 acre-feet per year. The composting operation proposes the use of water and process water (in the form of recirculated leachate) that would be applied during compost pile construction to help reduce fugitive dust and to prepare the materials for ideal composting conditions. Process water would offset the use of groundwater throughout the life of the project, as leachate would continually be generated from the composting process. The covered aerated static pile system would consist of subgrade aeration trenches to collect leachate. The leachate would be directed by subgrade drainage piping to a holding system for recirculation. Under the proposed project, groundwater

use would increase by approximately 2.76 acre-feet per year for Phase 1 composting operations and 5.52-acre-feet per year for a full build out of Phase 2 operations.

The proposed expansion of landfill hours of operations and ancillary activities would not require or result in relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. Existing water supply systems would serve the project needs. However, proposed expansion of landfill activities would require water usage for dust control and general landfilling operations. The volume of water projected for use for expanded landfill operations is 1,437,520 gallons or 4.41 acre-feet per year. Proposed operations would total 34.19 acre-feet per year, an increase of 9.93 acre-feet per year compared to existing conditions. A detailed analysis of water supply availability is discussed below in Impact 4.13-2.

For proposed composting operations, separation of stormwater from compostable materials would be achieved by physically covering the material with an impermeable cover (an engineered membrane fabric). Stormwater, upon being deflected from feedstocks, would be conveyed to the existing detention ponds to the south and northeast of the proposed composting area. Stormwater management from the project site during operation is expected to be relatively consistent with current conditions with the majority of stormwater flows contained onsite. The proposed project would not exceed the capacity of existing stormwater drainage systems at the project area or create substantial additional sources of polluted runoff.

In summary, existing water and power infrastructure would be utilized for proposed project elements and would not require expansion, relocation, or new construction. The project would not require the relocation or use of new wastewater disposal systems or natural gas upgrade to be completed for the project. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Water requirements for the project during construction and operation are discussed below. Existing water use onsite was discussed in Impact 4.13-1 above, demonstrating existing landfill and diversion program operations utilize 24.26 acre-feet per year. Under the proposed project, composting operations would commence and landfill hours of operations would increase, resulting in an overall net increase in water use onsite. Anticipated water demand for composting is summarized in **Table 4.13-1, *Composting Water Demand***, and anticipated water demand for expanded landfill operations is summarized in **Table 4.13-2, *Landfill Operations Water Demand***. As determined by the Lead Agency and as presented in Section 4.13.1, *Introduction*, a Water Supply Assessment is not required for the project.

Composting Operations

As shown in the table, a combination of groundwater and process water (in the form of leachate generated from the decomposition of compostable feedstocks during the composting process) would be utilized. Leachate would be incorporated through recirculation into the composting system. For each phase, there are sixteen (16) bunkers, for a total of 32 available bunkers for composting operations. However, only half the total number of bunkers are utilized for active composting as described in Chapter 3, *Project Description*. Therefore, Phase 1 includes eight (8) bunkers that would generate leachate and Phase 2, inclusive of Phase 1, is a total of sixteen (16) bunkers that would generate leachate. Daily water demand per bunker is projected to be 514 gallons per day (GPD). This projection is based on the estimate of needing to use 30 gallons of water per ton of feedstock proposed. At full phased build out, total water demand for the active composting stage is projected to be 8,219 GPD. Due to the type of feedstocks proposed for composting, leachate is projected to generated 3,288 GPD at full phased build out and is estimated to yield a 40% recovery rate from feedstocks. For net water demand, which assumes the recirculation of leachate into the composting process to offset groundwater usage, the project is estimated to require 4,932 GPD at full phased build out. This converts to 5.52 acre-feet per year, which is 0.0151 acre-feet net usage per day. Without the use of process water to limit the use of groundwater, it could be estimated that total water demand would be roughly 9.2 acre-feet per year.

Table 4.13-1: Composting Water Demand

Phase	# of Active Bunkers*	Annual Feedstock (Tons)	Daily Demand Per Bunker (Gallons)**	Total Demand Per Year (Gallons)	Total Demand Per Day (Gallons)
Phase 1	8	50,000	514	1,500,000	4,110
Phase 2	16	100,000	514	3,000,000	8,219

PROCESS WATER (leachate)***

Phase	# of Active Bunkers*	Feedstock Per Bunker Batch (Tons)	Daily Produced Per Bunker (Gallons)	Total Produced Per Year (Gallons)	Total Produced Per Day (Gallons)
Phase 1	8	962	11,538	600,000	1,644
Phase 2	16	962	11,538	1,200,000	3,288

NET WATER DEMAND

Phase	# of Active Bunkers*	Total Demand Per Year (Gallons)	Total Produced Per Year (Gallons)	Net Demand Per Year (Gallons)	Net Demand Per Day (Gallons)
Phase 1	8	1,500,000	600,000	900,000	2,466
Phase 2	16	3,000,000	1,200,000	1,800,000	4,932

NET WATER USAGE

Phase	# of Active Bunkers*	Net Usage Per Year (Gallons)	Net Usage Per Day (Gallons)	Net Usage Per Year (Acre Feet)	Net Usage Per Day (Acre Feet)
Phase 1	8	900,000	2,466	2.76	0.0076
Phase 2	16	1,800,000	4,932	5.52	0.0151

*Half of total number of bunkers are utilized for active composting

**Estimated 30 gallons of water per ton of feedstock proposed

***Process water defined as leachate resulting from an 8-week composting process and estimating a 40% recovery rate

Note: Phase 2 is inclusive of Phase 1 demands

Source: Kern County Public Works & SCS Engineers

Expanded Landfill Operations

Existing landfill operations and diversion activities utilize 7,906,360 gallons per year or 24.27 acre-feet per year. As shown in **Table 4.13-2, Landfill Operations Water Demand**, daily water use equates to an average daily use of 21,661 gallons and an average hourly daily use of 1,969 gallons, assuming an eleven (11) hour operating day from 6:00 a.m. to 5:00 p.m.

During expanded landfill operations, the project would require water for the same uses as existing operations such as dust control, soil excavation, fire safety, and other related landfill operating needs. The volume of water projected for use for expanded landfill operations is 1,437,520 gallons or 4.41 acre-feet

per year. As demonstrated in **Table 4.13-2**, daily water use equates to an average daily increase of 3,938 gallons, assuming an average hourly daily use of 1,969 gallons and a thirteen (13) hour operating day from 6:00 a.m. to 7:00 p.m.

Water use for expanded landfill operations is subject to fluctuate based on seasonal changes in weather conditions, time of the year (more water use in summer than in winter), and length of access roadways required to be watered. Water data presented is considered the highest volume of projected use on site.

TABLE 4.13-2: LANDFILL OPERATIONS WATER DEMAND				
Existing Operations	Gallons Per Year	Gallons Per Day	Gallons Per Hour	Acre-Feet Per Year
	7,906,360	21,661	1,969	24.27
Proposed Operations	Gallons Per Year	Gallons Per Day	Gallons Per Hour	Acre-Feet Per Year
	1,437,520	3,938	1,969	4.41

Construction

During construction, the project would require water for uses such as dust suppression, heavy equipment washing, soil compaction, and fire safety, which would be served by existing water entitlements and resources. As discussed previously, groundwater would be supplied by existing wells and water supply infrastructure on the project site that is owned by the project proponent. This water use would be a short-term effect on the water supply and would immediately end after construction is completed on the project.

Summary

The project proponent and the Semitropic Water Storage District entered into a Well Sharing Agreement in 2018. The agreement allowed Semitropic to install a well on County-owned property, south of the existing operating area. The County and project proponent have rights to 320 acre-feet of water per year from the well or 18.3% of the actual production capacity of the well. Actual production capacity of the well is 1,750 acre-feet per year.

The Semitropic Water Storage District, as a GSA, developed their 2020 Groundwater Sustainability Plan, and this plan was written in conjunction with and in support of a basin wide GSP drafted on behalf of the Kern Groundwater Authority (KGA). There are no adjudicated areas or incorporated cities within the Semitropic area. There are a number of de minimis domestic water users and multi-parcel water systems located within the Semitropic area, which are covered by this GSP. This plan identifies an initial path for sustainable management of the District's portion of the Subbasin and includes projects and management actions to reduce the groundwater pumping as necessary for the District. Semitropic was established to obtain surface water supplies to supplement groundwater supplies within the District boundaries. The essence of Semitropic conjunctive use strategy is to maximize the use of available surface water supplies in lieu of pumped groundwater. Semitropic has implemented a number of conjunctive-use measures, both structural and non-structural. Semitropic utilizes water banking operations and water transfers/exchanges to coordinate a GSA level water accounting system. Through a coordinated effort, various water budgets within the GSP were developed to reflect actual conditions. The result of that effort indicates a current

baseline shortage/deficit of approximately 165,910 acre-feet per year for the Semitropic district. However, through implementation of their GSP, it will allow Semitropic to service the future demands of the project in normal, single dry, and multiple dry water years. Water supply for the existing landfill operations was allowed under existing use and agreements with Semitropic and will continue to be provided through these use agreements. The project proponent has the right to pump groundwater for project needs. The project proponent will continue with efforts to offset groundwater use through the recirculation of leachate (as demonstrated in **Table 4.13-1, (Composting Water Demand)** and use of traditionally wetter feedstocks, such as food material, vegetative food material, and grass clippings.

As discussed above, the project would require an estimated 9.93 acre-feet per year of total groundwater usage (which equates to 3.1% of the allotted 320-acre feet per year annually) beyond the existing demand and usage of 24.26 acre-feet per year for landfill operations. As presented in Section 4.13.1, *Introduction*, there are two agreements that govern delivery of water to the project's parcel. The project proponent has a well sharing agreement with Semitropic allowing the use of 320 acre-feet per year from the on-site and existing well (capacity rights). The project is also governed by Semitropic's IWSA (non-contract water use). Therefore, impacts would be less than significant for the project. Although impacts would be less than significant, implementation of Mitigation Measure 4.13-1 would further ensure that the existing, available water supply would be sufficient to meet the project's needs.

Mitigation Measures

MM 4.13-1 Prior to issuance of building permits, the project proponent shall provide evidence of the following to the Kern County Planning and Natural Resources Department:

- a. The project proponent shall consult with the Kern County Environmental Health Services Division to confirm status and locations of onsite water wells intended for use during construction or operation of the project. The project proponent shall comply with all regulations and requirements as determined necessary to use, maintain, or improve active wells; including but not limited to any set-back requirements deemed necessary by the County.
- b. Prior to issuance of grading or building permits, the project proponent shall obtain reactivated well permits from the Kern County Environmental Health Services Division for those wells that will be used to monitor groundwater and provide water supply to the project. Copies of the issued permits for the reactivated well shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance

With implementation of Mitigation Measure 4.13-1, impacts would be less than significant.

Impact 4.13-3: The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The project site is not currently serviced by a wastewater treatment provider. The proposed project does not include any improvements, construction, or operations related to wastewater systems or proposed actions that would involve a wastewater treatment provider. Therefore, no impacts would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance

No impacts would occur.

Impact 4.13-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

The Shafter-Wasco Recycling & Sanitary Landfill (RSLF), permitted to operate under the provisions of Title 27 CCR, is an active public Class III municipal solid waste disposal facility, owned by the County of Kern and operated by the project proponent. The Kern County Public Works Department, being the project applicant itself, administers or sponsors several recycling programs across the incorporated and unincorporated regions of Kern County, which contribute toward meeting state-mandated solid waste diversion goals. The project proponent operates landfills and transfer stations throughout Kern County. The Shafter-Wasco RSLF serves the solid waste management needs of existing operations and would also serve the proposed operations.

Construction

It is anticipated the project would generate very limited volumes of waste during construction. Construction is anticipated to take six to nine months. Currently, the project site receives construction and demolition debris. Construction wastes resulting from the project would be disposed of at the landfill itself, with few residual materials expected. Spoils from grading and onsite excavation would be retained on site for use in general landfill activities. Any non-hazardous recyclable solid waste that would be collected by the construction project and incorporated into onsite stockpiles. Hazardous waste generated during construction would be disposed of at an approved location. The small volume of solid waste generated by construction activities will not exceed the capacity of the Shafter-Wasco RSLF, which is estimated to have disposal capacity through 2055. Construction of the project would not impair the attainment of solid waste reduction goals and would not generate solid wastes in excess of state or local standards; therefore, impacts would be less than significant.

Operation

The project would substantial support the diversion of organic wastes from County landfills on an ongoing and long-term basis due to project implementation. Incoming compostable feedstocks would include green material, food material, vegetative food material, manure, agricultural material, and yard trimmings. These materials are currently being handled, stockpiled, processed, and transported through the operation of the diversion programs. The majority of feedstocks being proposed for incorporation into composting and self-haul activities would therefore be diverted away from disposal and directed to the proposed operations, therefore reducing the overall volume of wastes being landfilled.

The project would produce small amounts of residual waste associated with operation of the composting operations and self-haul recycling activities. It is anticipated that only a small fraction of the feedstock may contain contaminants. During the pre-processing of materials, organic feedstocks are processed through various machinery to remove contamination, such as plastics, fabric, glass, and other municipal solid wastes

not permitted for composting operations. Contamination and residual waste would be disposed of at the landfill. These residual wastes may be collected and diverted for recycling if practical. Upon screening of the finished compost, larger pieces of organic material that did not breakdown during the composting and decomposition process would be reincorporated into the beginning stages of the composting process, therefore reducing the volume of organic wastes being landfilled and assisting with the attainment of solid waste reduction goals.

For the proposed self-haul receiving and processing activity, self-haul customers would be directed to deposit commingled solid waste loads onto a concrete, asphalt, or compacted soil surface dumping pad in the existing diversion area. Staff would sort the loads using equipment or by hand, removing divertible materials and placing materials into stockpiles. Items targeted for diversion include, but are not limited to, scrap metal, wood waste, dimensional lumber, tires, tree trimmings, brush, grass clippings, organic wastes, inerts (concrete, asphalt, tile, etc.), drywall, electronic waste, mixed recyclables (cardboard, paper, aluminum, plastics, etc.), mattresses, and carpet. Residual solid wastes that cannot be salvaged would be sent to disposal. Under existing conditions, these targeted loads are sent for disposal. This new proposed activity directly results in less volume of waste being landfilled and assists the project proponent in the attainment of solid waste reduction goals.

Therefore, the project would not impair the attainment of solid waste reduction goals, would not generate solid wastes in excess of state or local standards, and would not exceed the capacity of local solid waste infrastructure; impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-5: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Consistent with the analysis of the 2009 EIR, the existing landfill operations and diversion activities follow applicable federal, State, and local management and reduction statutes and regulations related to solid waste. The Shafter-Wasco RSLF is a Class III municipal solid waste sanitary landfill, permitted to operate under the provision of Title 27 CCR. The site is identified by CalRecycle as Solid Waste Information System (SWIS) Number 15-AA-0057. Monthly inspections by the Kern County Public Health Services Department, Environmental Health Division, acting as the Local Enforcement Agency, ensure that all facility operations operate in accordance with applicable statutes, regulations, and state minimum standards. CalRecycle conducts an 18-month inspection of the landfill along with the Local Enforcement Agency.

In September 2016, SB 1383 established 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 established targets to achieve a 50 percent reduction in the level of the statewide disposal of organic wastes (compostable feedstocks, green materials, food material, vegetative food material, etc.) from the 2014 level by 2020 and a 75 percent reduction by 2025. Therefore, the project proponent is charged with implementing programs, services, and capacity to meet the mandated targets. 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, no impacts will occur as a result of the proposed project as the project itself serves to meet State management and reduction goals, strategies, and regulations related to solid waste.

As discussed in detail in Impact 4.13-4 above, the project would generate a small volume of solid waste during construction and during operation. The proposed project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the project would result in less than significant impacts.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope for cumulative analysis of impacts on water supply is the projects in the Subbasin that would impact the groundwater subbasin. The geographic scope of analysis for utilities, such as electric power, natural gas, telecommunications, or wastewater treatment, includes the projects that would be relying on the same facilities and infrastructure. The geographic scope of analysis for solid waste disposal and reduction includes the projects that would impact the capacity and infrastructure of existing solid waste management facilities. The cumulative study area is based on the service area for each of the utilities described above, which includes demands on water, wastewater, stormwater drainage, and solid waste disposal.

Impacts of the proposed project would be cumulatively considerable if the incremental effects of the proposed project when combined with other past, present, or reasonably foreseeable projects (listed in Table 3-4, *Cumulative Project List*, in Chapter 3, *Project Description*, of this SEIR) would result in a significant cumulative effect. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. There is little to no potential for growth associated with the proposed project, thereby limiting its potential to contribute to demand for a particular service. As described above, the proposed project would place few demands on water, utilities systems, stormwater drainage, or solid waste disposal.

Water

Several other regional projects proposed in the Subbasin are projects expected to undergo construction in the next few years and primarily include commercial development that typically require most of their water

use initially during construction with relatively low demands during operation. A Water Supply Assessment is not required for the project; however, cumulative projects listed may be required to obtain a water supply assessment that can verify that adequate water supplies are available for the project. All of the cumulative projects would be required to be consistent with the Semitropic groundwater sustainability plan and meet the requirements of the Sustainable Groundwater Management Act to ensure that water supplies for the district can meet future projected water demands. Considering that the water supply evaluation for the project concluded that the water demands of the project can be met under existing water well-sharing agreements through the Semitropic Water Storage District, the project would not contribute to become cumulatively considerable.

Wastewater

During construction, the minimal volume of wastewater produced would be managed through the use of portable toilets and existing systems at the project site. During operations, the project would manage all wastewater generated onsite with the existing system. All wastewater would be treated onsite and would not contribute to regional or cumulative scenario needs for additional wastewater infrastructure. Therefore, the proposed project would not substantially contribute to a cumulative impact on regional wastewater treatment facilities or capacity.

Stormwater

In compliance with NPDES General Construction Permit requirements, the proposed project would submit a site-specific SWPPP to minimize the discharge of wastewater during construction that would include best management practices for runoff control. Other cumulative projects listed in Table 3-4 would also generate stormwater runoff and would also be required to implement BMPs, as well as comply with the NPDES General Construction Permit and their respective SWPPP. Adherence to stormwater regulation, BMPs and site-specific SWPPPs would reduce cumulative impacts from stormwater runoff to a less than significant level.

With respect to landfill operations, stormwater drainage for the waste management unit and diversion areas at the project site is currently managed via the existing stormwater drainage system by means of berms, channels, v-ditches, piping, and retention/detention ponds, and no changes are proposed. With respect to composting facility operations, the construction of new stormwater facilities is required and would result in an increase in impervious surfaces onsite of roughly 8.5 acres. However, stormwater generated from the project would be managed onsite via the Waste Discharge Requirements, and the existing stormwater management system is sufficiently sized in accordance with existing regulatory requirements, so as to contain anticipated onsite stormwater flows. Other cumulative projects would be required to comply with existing stormwater management regulations and would be required to implement BMPs to comply. Therefore, the project would not contribute to regional or cumulative scenario demand for stormwater facilities.

Solid Waste

The proposed project would generate a small amount of solid waste during construction and operation and will not significantly impact Kern County landfill capacity or solid waste facility infrastructure in the region. Additionally, the project is being implemented in response to SB 1383, which is a California-wide effort to reduce emissions of short-lived climate pollutants by targeting the overall reduction in the level of organics waste disposal. The project would assist with the diversion of organic wastes from the Shafter-

Wasco landfill and thereby reduce the total volume of waste within the disposal waste stream. The project is being implemented to meet the regulatory conditions related to solid waste in the local region and the state. Other planned projects would be required to comply with state and local waste reduction policies. Therefore, the proposed project would not generate solid waste that would impair the attainment of solid waste reduction goals and is less than significant cumulative impact.

In conclusion, the proposed project would be self-contained and would not have a significant impact on public utilities. The incremental effects of the proposed project would also not be substantial enough to result in a cumulatively considerable impact on utilities and service systems. Furthermore, the proposed project would result in a beneficial impact with respect to diversion of organic waste from landfills. Therefore, cumulative impacts, with implementation of Mitigation Measures MM 4.13-1, would be less than significant.

Mitigation Measures

Implement Mitigation Measure MM 4.13-1.

Level of Significance

With implementation of mitigation Measure MM 4.13-1, cumulative impacts would be less than significant.

Section 4.14

Transportation and Traffic

4.14.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed project.

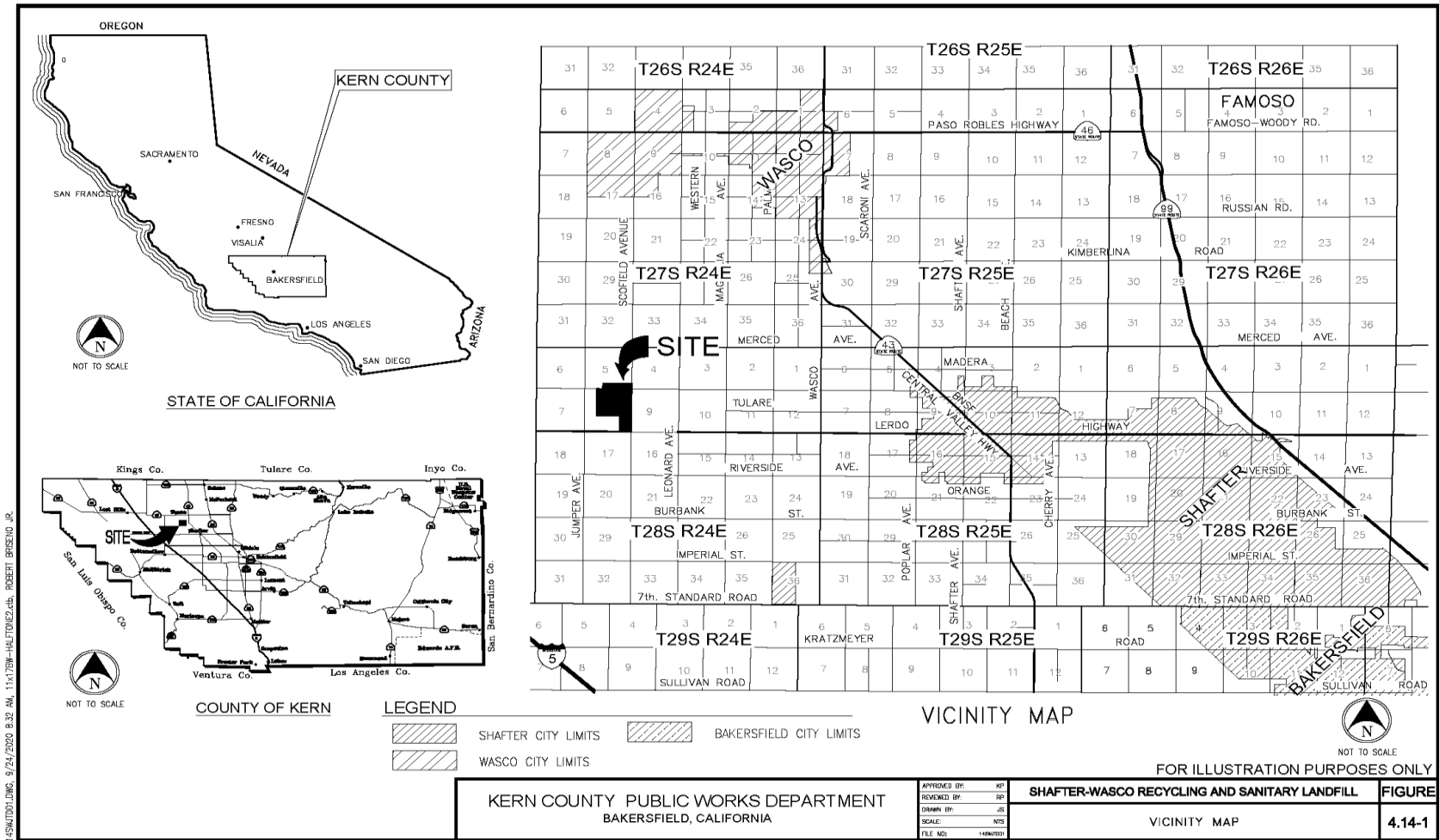
This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to transportation associated with the proposed project. In the 2009 EIR, there was not a dedicated transportation section. On October 1, 2007, the project proponent issued a Notice of Preparation (NOP) for the 2009 EIR project. Based on the NOP, a determination by the Lead Agency was made that the 2009 EIR would not require a comprehensive analysis of transportation and traffic. Transportation impacts were briefly analyzed in Chapter 4.3, *Air Quality*, Chapter 4.4, *Global Climate Change*, and Chapter 4.10, *Land Use and Planning*. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

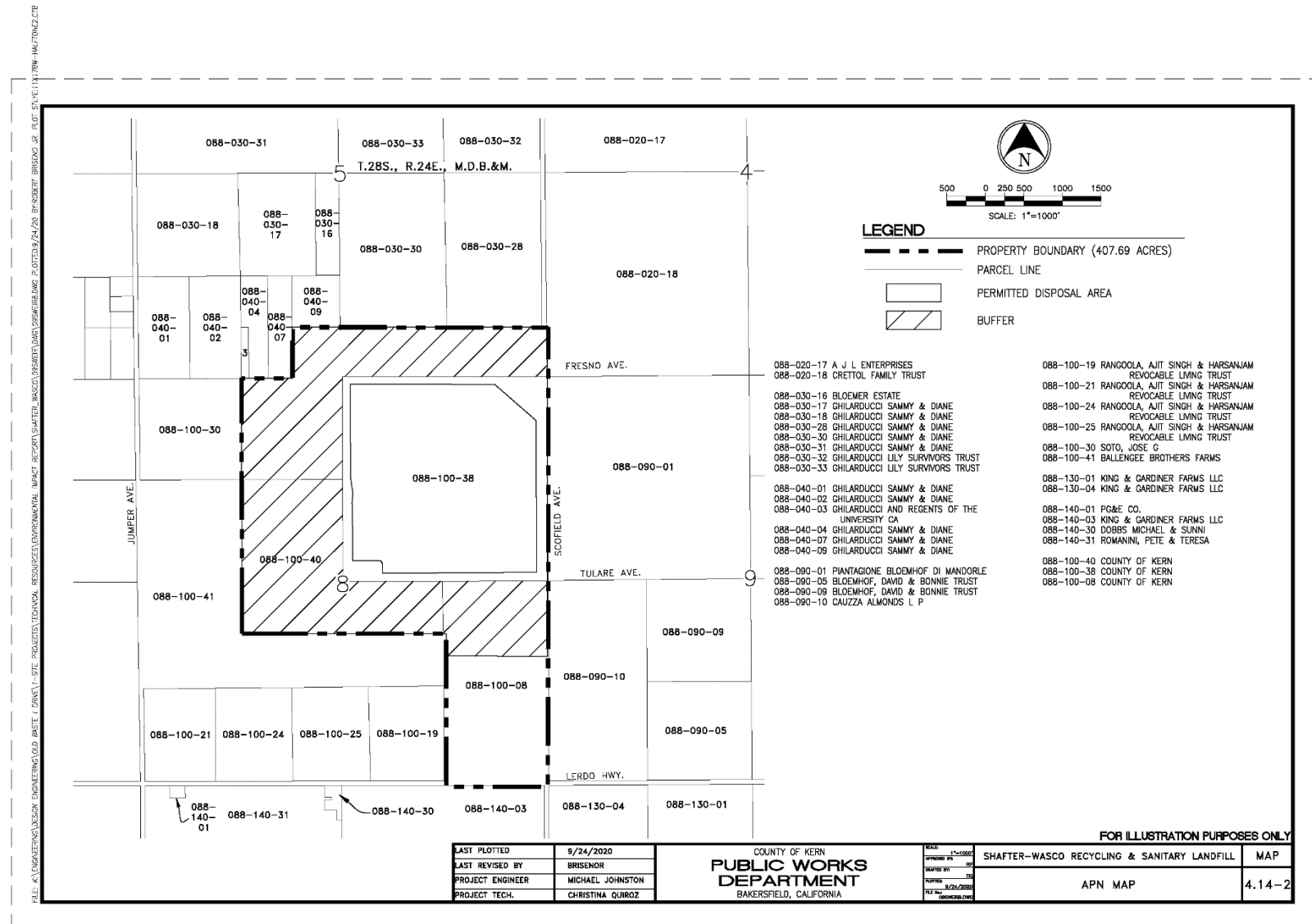
This chapter describes the affected environment, regulatory setting, and project impacts for transportation. The project is not proposing an increase to the existing permitted vehicle limit. The permitted traffic volume is 788 vehicles per day. Because the project is not proposing an increase in vehicles per day, as directed by the Lead Agency, the project will analyze Vehicle Miles Traveled (VMT) rather than the Level of Service, as described in the Kern County General Plan. The Kern County Public Works Department, Development Review Division reviewed the project and concluded that a traffic impact analysis study was not necessary for the project.

4.14.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project site consists of an existing solid waste municipal landfill, which includes active landfill operations, diversion activities, and landfill buffer lands. The project site is surrounded entirely by agricultural development. The project is in the unincorporated area of western Kern County, California as shown in **Figure 4.14-1, Vicinity Map**, below. The proposed project is sited within the existing 407.69-acre Shafter-Wasco Recycling & Sanitary Landfill (RSLF) at 17621 Scofield Avenue, Shafter, CA 93263, roughly eight miles west of the City of Shafter and nine miles northeast of the City of Wasco. The Shafter-Wasco RSLF is accessible from Scofield Avenue, one mile north of Lerdo Highway.

The Shafter-Wasco RSLF is an existing class III municipal solid waste landfill owned by the County of Kern and operated by the project proponent. The project site is identified as Assessor's Parcel Numbers (APNs) 088-100-38, 088-100-40, and 088-100-08, situated in Section 8 of Township 28 South, Range 24 East, Mount Diablo Base & Meridian (MDB&M) as shown in **Figure 4.14-2, Assessor's Parcel Number Map**, below. The project site is bordered to the north, south, east, and west by agricultural lands.





Regional Setting

Major Highways

The project site is located near three major highways that would provide access to the general vicinity of the project during the construction phases and during existing and planned operations. Interstate 5 (I-5), approximately 10 miles west via Lerdo Hwy, is the largest highway that may provide regional access to the project site from the northwest and the southwest directions. State Route (SR) 43 is approximately 8 miles east of the project site and provides access to the project site from the northeast and southeast via Kimberlina Road and Scofield Avenue, which runs adjacent to the project site. SR 46 is approximately 8 miles north via Scofield Ave. and connects SR 43 and I-5 to the communities east and west of the project site. The following provides a brief description of the major highways:

Interstate 5 is a major, four-lane divided freeway that extends north from the Mexican border to the Canadian border and provides access for goods movement, shipping, and travel. This highway crosses the western portion of Kern County and is designated by the Kern County General Plan Circulation Element as an arterial major highway.

State Route 43 is a north to south state highway, bounded to the south by SR 119, and to the north by SR 99.

State Route 46 is a truck route that connects northeast Kern County to I-5 and SR 99, without having to drive through the City of Bakersfield. It connects to I-5 for goods traveling north and east of Sacramento and connects to SR 99 for goods traveling to major San Joaquin Valley communities.

Alternative Transit Facilities

Public transportation in unincorporated Kern County is provided by Kern Transit, which offers 16 fixed routes throughout Kern County and a dial-a-ride general public transportation service for residents in most communities. Route 115 provides fixed route scheduled bus service between Lost Hills and Bakersfield via Shafter-Wasco on SR 46, SR 43, SR 99, and on local roads. The nearest bus stop to the project site that provides access to these bus routes is located approximately 8.5 miles east in Shafter at the intersection of Pacific Avenue and James Street. (Kern Transit, 2020).

Non-Motorized Transportation

There are 67 miles of existing bicycle facilities in the unincorporated parts of Kern County. There are no dedicated bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways.

Railways

Rail freight operations and facilities in Kern County are dominated by the Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railway (BNSF), which both run through the entirety of Kern County, primarily in a north-south oriented corridor. The closest railway is the Bakersfield Subdivision, which is operated by the BNSF (Kern Council of Governments, 2012). The closest segment of the Bakersfield Subdivision to the project site is located approximately 10 miles to the northeast running parallel to SR 43 in Wasco.

California High Speed Rail

The California High-Speed Rail Authority (HSR) is responsible for planning, designing, building and operation of the nation's first high-speed rail system. California high-speed rail will connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs and preserve agricultural and protected lands. The HSR is being built through a series of design-build construction packages. Portions of the HSR being constructed in Kern County is included in Construction Package 4, which includes the Kimberlina Viaduct. The Kimberlina Viaduct will cross over Kimberlina Road and will be approximately 117-feet in length and 110-feet wide. The Kimberlina Viaduct is east of SR 43 and south of the City of Wasco.

Airport Facilities

Wasco-Kern County Airport, a county-owned and operated public airport, is located about 10 miles north of the project site. This airport has a 3,380-foot asphalt runway and serves agricultural, business, and personal needs for the area around the City of Wasco (Kern Council of Governments, 2018).

Minter Field-Shafter Airport, a general aviation airport at the junction of SR 99 and Lerdo Highway, is approximately 14 miles east of the project site. Minter Field has two main runways and one crosswind runway and is surrounded primarily by agricultural uses with a commercial area and industrial uses to the south.

Meadows Field Airport, a county-owned and operated public airport, is located approximately 24 miles southeast of the project site. This airport has two asphalt runways measuring 10,855 feet and 7,703 feet in length, and serves general aviation, commercial, and cargo aircraft. In operation since 1927, the airfield serves an average of 146 flight operations per day.

Local Setting

The project site is generally bound by Lerdo Highway to the south, Merced Avenue and Kimberlina Road to the north, Scofield Avenue to the east, and Jumper Avenue to the west. Vehicular traffic on Scofield Avenue enters the site at the northeast corner of the permitted landfill boundary. Internal circulation on the project site consists of vehicles traveling approximately 400 feet west of the Scofield Avenue driveway until reaching a gatehouse. At the gatehouse, vehicles will be assessed and continue west to the disposal or diversion areas. This transportation analysis, based on proximity to the project and input received from the Kern County Public Works Department, Development Review Division, evaluates the following two intersections – 1) Scofield Avenue / Kimberlina Road; and 2) Scofield Avenue / Lerdo Highway.

4.14.3 Regulatory Setting

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at the Wasco-Kern County Airport, Minter Field-Shafter Airport, Meadows Field Airport, and other regional, public and private airports. The FAA regulates objects affecting navigable

airspace. Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 United States Code Section 46301(a). According to 49 Code of Federal Regulations Part 77.9, any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
 - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

State

California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. The project is located in the portion of Kern County under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to potential transportation and traffic impacts of the project:

California Vehicle Code (CVC), Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

Transportation Impacts, Senate Bill 743

Senate Bill (SB) 743 was signed in 2013, with the intent to “more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.” When implemented, “traffic congestion shall not be considered a significant impact on the environment” within California Environmental Quality Act (CEQA) transportation analysis. SB 743 requires the Governor’s Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts

within CEQA. For land use projects, OPR identified Vehicle Miles Traveled (VMT) per capita, VMT per employee, and net VMT as new metrics for transportation analysis. For transportation projects, lead agencies for roadway capacity projects have discretion, consistent with CEQA and planning requirements, to choose which metric to use to evaluate transportation impacts. Since SB 743 changed transportation impact analysis, the Lead Agency and project proponent must now use VMT rather than "level of service" (LOS) or similar measures of vehicular capacity or traffic congestion to evaluate transportation impacts.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for transportation are described below. The design level-of-service (LOS) for Kern County is LOS D, which is in conformance with the Kern County General Plan. As directed by the Lead Agency, the project does not require analysis of LOS. However, information is provided for regulatory context.

Circulation Element

2.1 Introduction

Goals

- Goal 4 Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- Goal 5 Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.1 General Highway Travel Characteristics in Kern County

In Kern County, trucks account for a considerable amount of traffic. This is true on the County's State highways where trucks make up twenty to thirty percent of the traffic within the County. The total County average truck vehicle miles traveled (VMT) is about twenty-four percent. Kern County's truck VMT ranks fourth highest of the counties in California. Statewide, Kern County ranks tenth highest in VMT for all vehicles. Trucks operating in Kern County represent greater than six percent of total truck VMT statewide.

2.3.2 Traffic Levels of Service (LOS)

Analyses of traffic volumes are useful in trying to reach an understanding of the nature of traffic in a given area. However, traffic volumes by themselves show neither the ability of a road network to carry additional traffic nor the quality of service afforded by the street facilities. For this, "Level of Service" is used to correlate numerical traffic-volume data to subjective descriptions of traffic performance at intersections. The Level of Service at signalized intersections often control the flow of urban traffic, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinities.

2.3.3 Highway Plan

Goals

- Goal 1 To carry out this plan in a manner consistent with needs and standards of the County.

- Goal 2 This plan proposes to improve access to Kern County using all available methods of transportation.
- Goal 5 Maintain a minimum LOS D.

Policies

- Policy 1 Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and midsection lines. This is because the road centerline can be determined by an existing survey.
- Policy 3 The plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.
- Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;
 - Arterial [Major Highway] Minimum 110-foot right-of-way;
 - Collector [Secondary Highway] Minimum 90-foot right-of-way;
 - Commercial-Industrial Street Minimum 60-foot right-of-way; and
 - Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

- Measure A The Kern County Planning and Natural Resources Department shall carry out the road network policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. The Kern County Planning and Community Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4 Future Growth

Goals

- Goal 1 To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.
- Goal 3 To provide a total framework for guiding the development of access roads to city, County and State road systems to diminish jobs – housing imbalance influences.

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. However, development proposed as part of a Community Plan or Specific Plan which utilizes Smart Growth Policies that encourage efficient multi-modal movements (See Section 1.10.8) is allowed the flexibility to assess traffic and safety impacts through other means than Level of Service (LOS). Utilization of the California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any

traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Implementation Measure

- Measure A The County should relate traffic levels to road capacity and development levels. To accomplish this, Roads Department and Planning Department should set up a monitoring program. The program would identify traffic volume capacity ratios and resulting level of service. The geographic base of the program would be zones set up by Kern Council of Governments.
- Measure C Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.4.9 Lerdo Area

Goals

- Goal 1 Manage tule fog influences on driving safety.
- Goal 2 Maintain a simple way for gaining and protecting road right-of-way to meet the area's future road needs.
- Goal 3 Improve traffic safety relative to farm vehicles and equipment.
- Goal 4 Provide for improved traffic flow adjacent to existing communities.

Policies

- Policy 3 The County shall routinely protect all surveyed section lines in this area for major highway right-of-way. Kern County will preserve all mid-section lines for secondary collector roads.
- Policy 5 Encourage the Roads Department to study the feasibility of including wide road shoulders in agricultural areas of the County.
- Policy 6 The County should monitor development applications as they relate to traffic generation developed for this plan. If traffic resulting from projects such as General Plan amendments(s) would exceed current volume to capacity projections, mitigation is required if development causes roadways to fall below LOS D and LOS C for Caltrans roadways. Utilization of the CEQA process would help identify alternatives to, or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs – housing balance. This is triggered if the projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build off-site transportation facilities. These enhancements would reduce traffic congestion impacts.
- Policy 7 Kern County should not allow new roads that serve low-density parcels to have unpaved surfaces. Any road capable of or now serving fifty average daily traffic trips or more should be paved.

Implementation Measures

- Measure C Request Caltrans secure federal aid for a fog early warning study.
- Measure D The Roads Department should pursue studies regarding the feasibility of widening of road shoulders to accommodate farm vehicles and equipment.

2.5.1 Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee state highways in Kern County receive a fair share of California's transportation investment.

Goals

- Goal 1 Provide for Kern County's heavy truck transportation in the safest way possible.
- Goal 2 Reduce potential overweight trucks.
- Goal 3 Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

- Policy 1 Caltrans should be made aware of the heavy truck activity on Kern County's roads.
- Policy 2 Start a program that monitors truck traffic operations.
- Policy 3 Promote a monitoring program of truck lane pavement condition.

Implementation Measure

- Measure A: Caltrans should further detail the need for improvement of pavement conditions on the State Highway System. This would encourage Caltrans implementation of the above Policies.

2018 Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted in August 16, 2018. The 2018 Regional Transportation Plan (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 local, regional, state and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS) required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board (CARB) set Kern 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 ensuring consistency between low income housing need and transportation planning.

The intent of the SCS is to achieve the state's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, state, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to state and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future state bonding programs, and mileage-based user fees. (Kern Council of Governments, 2018).

Kern County Airport Land Use Compatibility Plan (ALUCP)

The Kern County ALUCP establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues for airports and the land uses around them. Wasco-Kern County Airport, Minter Field-Shafter Airport, and Meadows Field Airport are located approximately 10 miles north, 14 miles east, and 24 miles southeast of the project site, respectively. Due to the project's distance from the nearest airports, the project is not located within the limits of any of the influence areas depicted in the compatibility maps for ALUCP facilities. (Kern County, 2012).

4.14.4 Impacts and Mitigation Measures

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

Methodology

As described in Chapter 3, *Project Description*, the proposed project does not propose an increase in traffic volumes beyond what is currently permitted. Traffic impacts due to construction activities associated with the project were evaluated based on construction details provided in the *Shafter-Wasco Recycling & Sanitary Landfill: Energy Conservation Study for Composting and Waste Diversion Project* (SCS, 2019), *Air Quality Impact Assessment* (SCS, 2021-Appendix B), prepared by SCS Engineers Environmental Consultants and Contractors for the project.

SB 743 required changes to the guidelines implementing CEQA regarding the analysis of transportation impacts. Pursuant to Public Resource Code section 21099, the criteria for determining the significance of

transportation impacts must “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (OPR, 2018). As discussed in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018), automobile delay, as measured by “level of service”, generally no longer constitutes a significant environmental effect under CEQA. The California Natural Resources Agency has certified and adopted changes to the CEQA Guidelines that identify vehicle miles travelled (VMT) as the most appropriate metric to evaluate a project’s transportation impacts.

The following is an excerpt from CEQA Guidelines 15064.3(b)(4):

Methodology. A lead agency has the discretion to choose the most appropriate methodology to evaluate a project’s vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project’s vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence.

Because the project is not proposing an increase in the permitted number of vehicles per day, and as directed by the Lead Agency, the project applicant will analyze VMT rather than LOS, as described in the Circulation Element of the Kern County General Plan. The Kern County Public Works Department, Development Review Division reviewed the project and concluded that a traffic impact analysis study was not necessary for the proposed project.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) further discusses vehicle types to consider when analyzing VMT. The advisory references Section 15064.3, subdivision (a), which states, “For the purposes of this section ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” The Technical Advisory indicates “the term ‘automobile’ refers to on-road passenger vehicles, specifically cars and light trucks.” The Technical Advisory indicate that heavy truck trips, such as those associated with this project, are not subject to VMT analysis, thresholds, or reduction requirements as part of the CEQA review process. An analysis of vehicle volume will be conducted to demonstrate the proposed project will not result in an increase of traffic beyond what is currently permitted, and that traffic related impacts will be less than significant.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine if a project could potentially have a significant adverse effect related to transportation. A project could have a significant impact related to transportation 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 CEQA Guidelines § 15064.3(b);
- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment);
- d. Result in inadequate emergency access.

Project Impacts

Impact 4.14-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Project Operations

Vehicle trips generated as a result of project operations considers existing facility conditions and the growth anticipated as a result of implementing the project. As a result of the project, the average daily vehicle count at the project site is anticipated to increase from approximately 310 currently to 322 at the completion of Phase 2 of the proposed project, below the permitted daily vehicle volume count of 788.

Table 4.14-1: Total and Permitted Inbound Vehicle Volume Count

Total Vehicle Count (Current Landfill & Projected Compost Facility Traffic)	Average Annual Vehicle Count	Average Daily Vehicle Count	Net Change in Average Daily Vehicle Count	Total Permitted Daily Vehicle Volume Count
Current	111,701	310	0	788
Phase I	108,919	298	-12	788
Phase II	117,645	322	12	788
Notes: As curbside green waste service is implemented by nearby incorporated cities, it is projected fewer self-haul inbound loads and an increase in commercial haulers. Phase II is inclusive of Phase I.				
Solid Waste Facility Permit only counts inbound vehicle volume.				

Table 4.14-2: Project Related (Compostable-Waste) Vehicle Volume Count

Vehicle Count Associated with Compostable Waste	Compostable-Waste Vehicles/Year Inbound	Compostable-Waste Vehicles/Year Outbound	Total Compostable-Waste Vehicles/Year	Net Change in Total Compostable-Waste Vehicles/Year	Compostable-Waste Average Daily Traffic (ADT)
Current	11,508	474	11,982	0	66
		29-NB 445-SB			
Phase I	8,726	870	9,596	-2,386	53
		435-NB 435-SB			
Phase II	17,452	1,739	19,191	7,209	105
		633-NB 633-SB			
NB = northbound, SB = southbound.					

Table 4.14-3: New Employee Vehicle Miles Traveled (VMT)

# of New Full-Time Employees	Round-Trip per day (miles)	Days Worked per year	Daily VMT (miles)	Annual VMT (miles)
2	50	260	100	26,000

Assumptions for the operational traffic included the following:

- The proposed project will be utilized by the local community and residents of Kern County participating in curbside green-waste collection services and self-haul services.
- The proposed compost facility is to process compostable organic waste that is already being transported to the existing facility for disposal or export. Any additional compostable organic waste would be a result of implementing SB 1383 and other state mandated organic waste diversion objectives, irrespective of the proposed project being constructed.
- An increase in commercial hauling activity relative to the increase in curbside green waste collection services will result in more efficient transport of incoming compostable feedstock. The outgoing finished compost material will be transported by roll-off trucks with a capacity of 23 tons/truck.
- Two new employees will be hired to assist with the proposed compost facility and enhanced self-haul program. VMT for the new workers assumes the trip distance is calculated from the site to the center of the nearest major city (25 miles/trip), in this case Bakersfield, California.

The Kern County Public Works Department, Development Review Division reviewed the transportation impacts associated with the project and concluded that a traffic impact analysis study was not necessary. After conducting a review of vehicle volumes, it was determined that the project will not have a significant effect on local circulation. The projected Phase 2 increase of 39 vehicles averages to 6 peak hour trips. A traffic impact analysis is warranted when a project generates 50 or more peak hour trips at any intersections. Therefore, the project would have a less than significant impact. The proposed project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, therefore the project impacts would be less than significant.

Project Construction

The majority of construction vehicle trips would be associated with construction employees traveling to and from the project site during peak weekday hours. Project construction is expected to rely mostly on Kern County's skilled labor pool; therefore, the project's construction-related traffic is anticipated to be local in nature. It is assumed that construction staff not drawn from the local labor pool would stay in hotels in nearby communities, so the workers would not have to travel far or add traffic to roads outside of the vicinity of the project site.

Equipment and construction materials delivery trips are anticipated to travel to and from the site during both peak and non-peak periods. Heavy equipment used at the site would not be hauled to and from the site daily but would be brought in at the beginning of construction and taken out upon completion of construction. Assumptions for the construction traffic assessment included the following:

- The peak year for construction activities would occur during Phase I of the proposed project, over the course of 130 working days of construction. Construction workers were assumed to commute alone (no carpool) during the AM and PM peak traffic hours, while haul truck and vendor delivery truck trips were assumed to be spread out throughout the day.
- Over the two phases of construction, with an estimated 235 total days of scheduled construction workdays, approximately 3,880 total trips would be made by haul trucks, vendor delivery trucks, and passenger vehicles carrying construction workers. This equates to less than 17 round trips per day.
- Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 a.m. and 6:00 p.m., as required to meet the construction schedule. Any construction work anticipated outside of the normal work schedule would conform to requirements of the Kern County Noise Ordinance (Chapter 8.36), the Kern County Dark Skies Ordinance (Chapter 19.81) or would be requested through the appropriate agencies for applicable approval(s).

Table 4.14-4: Construction Worker Vehicle Miles Traveled (VMT)					
Phase	Category	Workers	Number of Days	Total Trips	On-Road Worker VMT (miles)
Phase I	Site Preparation	5	10	100	2,500
	Grading	4	10	80	2,000
	Construction	10	95	1,900	47,500
	Architectural Coating	2	15	60	1,500
Phase II	Site Preparation	0	0	0	0
	Grading	4	10	80	2,000
	Construction	10	80	1,600	40,000
	Architectural Coating	2	15	60	1,500
Total			235	3,880	97,000
Notes: VMT for workers assumes the trip distance is calculated from the site to the center of the nearest major city (25 miles/trip).					

As noted previously, the peak phase for construction activities would occur during Phase I. Construction workers were assumed to commute alone (no carpool) during the AM and PM peak traffic hours, while haul truck and vendor delivery truck trips were assumed to be spread out throughout the day. The transportation related activities of the proposed project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, therefore the project impacts would be less than significant.

Mitigation Measures

No mitigation measures required.

Level of Significance

Impacts would be less than significant.

Impact 4.14-2: The project would conflict or be inconsistent with CEQA Guidelines §15064.3(b).

There are specific guidelines in the evaluation of projects that include heavy vehicle traffic, contained in the *Technical Advisory on Evaluating Transportation Impacts in CEQA* by the Governor's Office of Planning and Research. The following excerpt from the advisory for consideration of VMT impacts:

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 of this project, are not subject to VMT analysis, thresholds or reduction requirements as part of the CEQA review process. The guidelines specify they are for use in evaluating office, residential and retail projects.

As demonstrated in **Table 4-14.3**, above, and explained in Impact 4.14-1 above, applicable VMT for the project is associated with the hiring of two (2) new full-time employees for the project. As shown, the project estimates new employees travelling 100 round-trip miles per working day for a projected annual total of 26,000 VMT. The project will not lead to a measurable and substantial increase in vehicle travel and is consistent with existing travel routes and traffic circulation.

Due to the minimal increase in VMT from new employees and the non-applicability of heavy truck trips to VMT, the project will not conflict or be inconsistent with CEQA Guidelines §15064.3(b), and impacts would be less than significant.

Mitigation Measures

No mitigation measures required.

Level of Significance

Impacts would be less than significant.

Impact 4.14-3: The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment).

The project does not propose a change in traffic patterns, design, or use, and therefore will not increase hazards due to a geometric design feature (sharp curves or dangerous intersections) or conflict with existing and compatible uses (farm equipment and service vehicles).

During construction, the project would require the delivery of heavy construction equipment using area roadways, some of which may require transport by oversize vehicles. Heavy equipment associated with these components would not be hauled to and from the site daily. Rather, equipment would be hauled in at the beginning of construction and taken out upon completion of construction. As equipment is no longer required for construction, these items will be removed on an as needed basis. The use of oversize vehicles during construction can create a hazard to the public by limiting motorist views on nearby roadways. However, as needed, the transportation of construction related oversize vehicle loads will follow all applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles. The need for California Highway Patrol escorts, as well as the timing of transport, would be at the discretion of Caltrans, CHP, and Kern County, and would be detailed in respective oversize load permits.

Due to the rural nature of the project and the area roads, construction vehicles associated with the project are not anticipated to incur hazards traveling to and from the project site. 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. Therefore, impacts are less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.14-4: The project would result in inadequate emergency access.

The project would not alter or block any existing emergency access routes, nor change existing traffic or roadway patterns associated with emergency access. No changes in traffic patterns or increases in traffic volumes are proposed. In addition, the project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project would not result in inadequate emergency access; therefore, impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, in this SEIR, there are seventeen (17) projects identified within the vicinity of the proposed project.

All related projects would be required to undergo independent environmental review, in accordance with the requirements of CEQA and a Lead Agency, on an individual basis because of the effects of a specific development and its immediate environment. Each related project would also be required to demonstrate consistency with transportation regulations and all applicable local and state planning documents and regulations governing the project site, including the Kern County General Plan and Senate Bill 743.

Projects with overlapping construction schedules could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network. However, as described above, increased traffic associated with construction workers and delivery trucks would not significantly affect traffic volumes at the intersections or on the roadways surrounding the project site. Projects with overlapping operations could result in a contribution to increased traffic levels on the surrounding roadways. However, as described above, the addition of two (2) new vehicles per day would not significantly affect traffic or transposition in the surrounding project area.

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, nor would the project alter or block any existing emergency access routes or change existing traffic patterns associated with emergency access.

In addition, the project would not cumulatively conflict with a program, plan, or policy addressing the circulation system or conflict with or be inconsistent with CEQA Guidelines § 15064.3(b). Therefore, the project would not result in a cumulatively considerable impact regarding transportation and impacts would be considered less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.15

Tribal Cultural Resources

4.15.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed Shafter-Wasco Composting and Waste Diversion Project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

Since the certification of the 2009 EIR, a tribal cultural resources section has been added to the Kern County CEQA Environmental Checklist. This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. The analysis in this section is based, in part, on consultation with the Native American Heritage Commission and Native American Tribes (Appendix I). Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

4.15.2 Environmental Setting

The environmental setting for tribal cultural resources is the same as that described in Chapter 4.6, *Cultural Resources*, Section 4.6.2 of the 2009 EIR, that there are no historical resources within five miles of the project area that are listed on the National Register of Historic Places, The California Register, California Inventory of Historic Resources, California State Historic Landmarks, or the California Points of Historic Interest and a Sacred Lands File failed to indicate the presence of Native American Cultural Resources in the immediate project area, with the following updates.

Existing Tribal Cultural Resources

Native American Correspondence & SB 18 and AB 52 Consultation

On June 1, 2020, the County contacted the California Native American Heritage Commission (NAHC) requesting a search of their Sacred Lands File (SLF) for the project. The NAHC responded via letter on June 3, 2020 indicating the SLF search did not identify Native American cultural resources or sacred sites within the project site. The NAHC also provided a list of Native American groups affiliated with the project site and its vicinity.

On June 13, 2020, the County mailed Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52) consultation notification letters to Native American groups and individuals indicated by the NAHC to initiate government-to-government consultation. The notification letter provided details on the project, a map of

the project site, and an invitation to consult. To date, the County has received one response from the Native American groups contacted. The San Manuel Band of Mission Indians (SMBMI) responded to state that the proposed project is outside of Serrano ancestral territory and, as such, SMBMI does not elect to consult on this project with the Lead Agency.

Local Setting

Consistent with the 2009 EIR, lands associated with the proposed project continue to remain disturbed in the project area. Disturbed areas occur throughout the project site, including areas where vehicles and equipment frequently travel and where active landfill and diversion areas currently operate, as well as where ongoing and historically agricultural activities occur.

A records search was conducted by Stantec Consulting Services, Inc. on December 6, 2018 at the California Historic Resource Information System, Southern San Joaquin Valley Information Center. There were no tribal cultural resources previously identified within the proposed project area according to the archival records search. As part of the archival records search, the report identified no findings of historical significance. An archaeological pedestrian survey was conducted on December 13, 2018. The survey included all lands associated with the proposed project. It was determined that no historical resources were discovered at the site. Letters containing maps and project information were sent to tribal contacts listed by the NAHC on January 30, 2019. The Department received a single response from the San Manuel Band of Mission Indians stating that they do not have any comments as the proposed project is outside of their ancestral territory.

APN 088-100-38 is designated as solid waste disposal facility and solid waste disposal facility buffer. Landfill operations have completely disturbed the 160.61-acre landfill portion of the parcel. The 90-acre buffer, which includes the proposed composting and self-haul operation, has been in constant agricultural use. A variety of row crops are farmed and planted in rotation within the buffer areas.

APN 088-100-08 is designated as solid waste disposal facility buffer. This buffer parcel has been in continual intensive agricultural cultivation predating the landfill and has been planted with various row crops including cotton, alfalfa, and seasonal vegetables such as carrots.

There are no historical resources within five miles of the project area that are listed on the National Register of Historic Places, The California Register, California Inventory of Historic Resources, California State Historic Landmarks, or the California Points of Historical Interest. There are no tribal cultural resources within the project's impact area.

4.15.3 Regulatory Setting

The regulatory setting for tribal cultural resources is the same as that described in Chapter 4.6, *Cultural Resources*, Section 4.6.2 of the 2009 EIR including the California Environmental Quality Act; California Health and Safety Code, with the following updates.

State

Native American Heritage Commission

California 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. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA *Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has

failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Senate Bill 18

SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to “provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places” (Governor’s Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (Governor’s Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government’s jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county’s jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Local

Kern County General Plan, Chapter 1

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservations

Construction and operation of the project would be subject to the Kern County General Plan. The policies and implementation measures in the Kern County General Plan for tribal cultural resources applicable to the project are provided below. There are no policies and implementation measures specific to tribal cultural resources that are applicable to the project. Rather, the Kern County General Plan contains policies and implementation measures that are more general in nature and not specific to development, such as the project.

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

- Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.
- Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.
- Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.
- Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.
- Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

4.15.4 Impacts and Mitigation Measures

Methodology

This SEIR section describes the impact analysis relating to tribal cultural resources 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.

As described above, to evaluate the project's potential effects on tribal cultural resources, a Sacred Lands File search was conducted by the NAHC, and SB 18 and AB 52 notification letters were sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Impacts to tribal cultural resources may include direct impacts resulting from ground-disturbing activities or indirect visual impacts associated with the construction of above ground structures within the view shed of an identified tribal cultural resource.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist has been updated to identify the following criteria to determine if a project could potentially have a significant adverse effect related to tribal cultural resources.

- a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - i. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k), or
 - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Project Impacts

Impact 4.14-1a: 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 resource defined in PRC Section 5020.1(k).

The Sacred Lands File search conducted by the NAHC did not indicate the presence of tribal cultural resources within or immediately adjacent to the project site. Furthermore, the County's government-to-government consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52 did not result in the identification of tribal cultural resources within the project site. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation is required.

Letters containing maps and project information were sent to tribal contacts listed by the Native American Heritage Commission on January 30, 2019, as part of the Stantec Consulting Services, Inc. archaeological study. The Department received a single response from the San Manuel Band of Mission Indians stating

that they do not have any comments as the proposed project is outside of their ancestral territory. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3 from SEIR Chapter 4.6 *Cultural Resources*.

Level of Significance

With Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, impacts would be less than significant.

Impact 4.14-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As noted above, no tribal cultural resources were identified as part of the Sacred Lands File search conducted by the NAHC, nor as part of the County's government-to-government consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation is required.

Letters containing maps and project information were sent to tribal contacts listed by the Native American Heritage Commission on January 30, 2019, as part of the Stantec Consulting Services, Inc. archaeological study. The Department received a single response from the San Manuel Band of Mission Indians stating that they do not have any comments as the proposed project is outside of their ancestral territory. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3 from SEIR Chapter 4.6 *Cultural Resources*.

Level of Significance

With Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, impacts would be less than significant.

Cumulative Impacts

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in Table 3-4, *Cumulative Project List*, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic scope for cumulative impacts to tribal cultural resources includes a 1-mile radius around the project, as stated in the archaeological report and survey. This geographic scope of analysis is appropriate because the resources within this area are expected to be similar to those that occur on the project area because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. This is a large enough area to encompass any effects of the proposed project on tribal cultural resources that may combine with similar effects caused by other projects and provides a reasonable context wherein cumulative actions could affect tribal cultural resources. Cumulative impacts to tribal cultural resources in the area could occur if other related projects, in conjunction with the proposed project, had or would have impacts on tribal cultural resources that, when considered together, would be significant. Potential impacts of the proposed 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 in the project area and the project will not have an impact on tribal cultural resources. Therefore, the proposed project would not have a cumulatively considerable contribution to impacts to tribal cultural resources, and cumulative impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3 from SEIR Chapter 4.6 *Cultural Resources*.

Level of Significance after Mitigation

With Implementation of Mitigation Measures MM 4.6-1 through MM 4.6-3, cumulative impacts would be less than significant.

4.16.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* (SCH#2004111015) was previously certified in 2009. This SEIR has been prepared to address the proposed project, which modifies the previously certified *Final EIR Shafter-Wasco Sanitary Landfill Permit Revision Project* and is being prepared pursuant to Section 15163 of the CEQA Guidelines. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter.

This chapter serves to update the analysis contained within the 2009 EIR with regard to the potential impacts to energy resources associated with the proposed project. In the 2009 EIR, there was not a dedicated energy resources section. Energy impacts were briefly analyzed in Chapter 4.4, *Global Climate Change*. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

This section provides the content and analysis required by Public Resources Code Section 21100(b)(3) and described in CEQA Guidelines Appendix F. Public Resources Code Section 21100(b) and Section 15126.4 of the CEQA Guidelines require that an EIR identify mitigation measures to minimize a project’s significant effects on the environment, including but not limited to measures to reduce wasteful, inefficient, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the proposed project. Appendix F of the CEQA Guidelines further states that a project’s energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Environmental Setting and Impact Analysis portions of EIR technical sections, as well as through mitigation measures and alternatives.

This energy section analyzes the energy implications of the proposed 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 proposed project’s anticipated energy needs and conservation measures provided in the *Energy Conservation Study for Composting and Waste Diversion Project, Shafter-Wasco Recycling & Sanitary Landfill* prepared by SCS Engineers (SCS), which is provided in Appendix F of this SEIR. Information found herein, as well as other aspects of the proposed project’s environmental-related energy impacts, are discussed in detail elsewhere in this SEIR, including in Chapter 3, *Project Description*, and Section 4.3, *Air Quality*, and Section 4.4, *Greenhouse Gas Emissions*, of this SEIR.

4.16.2 Environmental Setting

In the 2009 EIR, there was not a dedicated energy resources section. The environmental setting for energy was briefly described in Chapter 4.4.2 – *Global Climate Change, Environmental Setting*, pages 4.2-2 through 4.2-8 and in Chapter 4.3, *Air Quality* – of the 2009 EIR. Information related to greenhouse gas

emissions generation and their associated impacts on the environment or conflict with an applicable plan, policy, or regulation have been analyzed in Chapter 4.4, *Greenhouse Gas*, of this SEIR, and are not repeated in this section.

As described in Chapter 3, *Project Description*, the project site is an existing class III municipal solid waste landfill with the operation of several diversion programs and associated landfilling activities. The project site is in the unincorporated area of western Kern County, California and is sited within the existing Shafter-Wasco Recycling & Sanitary Landfill. The landfill operates under an existing conditional use permit (CUP), solid waste facility permit, waste discharge requirements, and permit to operate. Existing energy usage includes the consumption of diesel and gasoline for heavy and light duty equipment for landfilling and diversion operations and electricity for associated water pumps and electrified equipment. The project is located within the Pacific Gas & Electric (PG&E) service territory.

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). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

In addition, the following updates are being provided.

Regional Setting

Californians consumed 285,488 gigawatt hours (GWh) of electricity in 2018, which is the most recent year for which complete data sets are available. Of this total, Kern County consumed 15,942 GWh (CEC, 2018b). State consumption is down 2 percent (6,549 GWh) from 2017 (CEC, 2018a). California's non-CO2 emitting electric generation categories (nuclear, large hydroelectric, and renewables) accounted for 53 percent of its generation, compared to 56 percent in 2017. As a result, in-state generation dropped by 6 percent (11,494 GWh) to 194,842 GWh. This decrease was due, in part, to reduced generation from hydroelectric power plants as dry conditions returned to the state. Net imports increased by 6 percent (4,944 GWh) to 90,648 GWh, partially offsetting the decline. In 2018, the California electricity mix included natural gas (34.91 percent), coal (3.30 percent), large hydroelectric plants (10.68 percent), nuclear (9.05 percent), oil (0.01 percent), petroleum coke/waste heat (0.15 percent) and unspecified sources of power (10.54 percent). The remaining 31.36 percent was supplied from renewable resources, such as wind, solar, geothermal, biomass, and small hydroelectric facilities (CEC, 2018a).

Energy usage is typically quantified using the British Thermal Unit (BTU). According to the United States Energy Information Administration (EIA, 2018), total energy usage in California was 7,967 trillion BTU in 2018, which equates to an average of 202 million BTU per capita. Of California's total energy usage, the breakdown by sector is 39 percent transportation, 23 percent industrial, 19 percent commercial, and 19 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related uses.

California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity. California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018. California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs. In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation. In 2018, large- and small-scale solar PV and solar thermal installations provided 19% of California's net electricity generation (EIA, 2018).

Electricity

The production of electricity requires the consumption or conversion of energy resources – including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources – into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

The project is located within the Pacific Gas & Electric (PG&E) service territory. PG&E updates all load forecasts for gas and electricity services every year. Load growth forecasts for this area are currently determined using load growth projection tools that use a number of sources of data, including past peak loading, population, development characteristics, and temperature history information. **Table 4.16-1, *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 4.16-1: ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2018		
Energy Resource	2018 PG&E	2018 CA Power Mix (for comparison)
Total Sales/Total Usage (million kilowatt-hours) ^a	80,369	285,488
Eligible Renewable	38.9% ^b	31.4%
Biomass & bio-waste	4.3%	2.4%
Geothermal	3.7%	4.5%
Small hydroelectric	2.7%	1.6%
Solar	18.2%	11.4%
Wind	10.0%	11.5%
Coal	0%	3.4%
Large Hydroelectric	12.7%	10.7%
Natural Gas	14.9%	34.9%
Nuclear	33.5%	9.0%
Other	0%	.1%
Unspecified sources of power ^c	0%	10.5%
Total	100%	100%
<p>a CEC, 2018.</p> <p>b The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind</p> <p>c Refers to electricity from transactions that are not traceable to specific generation sources.</p> <p>SOURCES: CEC 2018, PG&E 2018</p>		

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). The natural gas consumption in Kern County over a 10-year period is shown in **Table 4.16-2, *Natural Gas Consumption in Kern County 2009-2018***. Similar to energy consumption, natural gas consumption in Kern County remained relatively constant, with no substantial increase during that period.

The California Public Utilities Commission (CPUC) regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California's regulated utilities do not own any natural gas production facilities. All-natural gas sold by these utilities must be purchased from suppliers or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, the CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC

2017). As indicated in the preceding discussion, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

TABLE 4.16-2: NATURAL GAS CONSUMPTION IN KERN COUNTY 2009-2018	
Year	Natural Gas Consumption (in millions of therms)
2009	2,497
2010	2,327
2011	2,376
2012	2,326
2013	2,697
2014	2,715
2015	2,762
2016	2,520
2017	2,397
2018	2,455
SOURCE: CEC, Natural Gas Consumption by County, 2018	

Existing Infrastructure

As previously discussed, the project is located within the PG&E service territory. In order properly operate their natural gas transmission pipeline and storage systems, PG&E must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. PG&E obtains its energy supplies from power plants and natural gas fields throughout central and northern California, as well as from energy purchased outside its service area and delivered through high-voltage transmission lines and pipelines. Electricity is generated from various sources, including fossil fuel, hydroelectric, nuclear, wind, and geothermal plants, and is fed into the electrical grid system serving Southern California. Natural gas is provided to the project area by PG&E pipelines, serving residential, commercial, and industrial markets. PG&E owns and operates several natural gas storage fields that are located within their service territories in northern and central California.

Transportation

According to the United States Energy Information Administration (EIA, 2018) and California Energy Commission (CEC), transportation accounted for 39.8 percent of California's total energy consumption in 2018. California consumed 15.34 billion gallons of gasoline and 3.01 billion gallons of diesel fuel (CDTF, 2020) in 2019. Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use. However, the State is 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 from the transportation sector; and reduce vehicle miles traveled. Accordingly, gasoline consumption in California has declined. 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. According to fuel sales data for 2018, fuel consumption in Kern County was approximately 454 million gallons of gasoline (CARB 2019) and 308 million gallons of diesel fuel in 2018 (CARB, 2019.)

Fuel Consumption

Automotive fuel consumption in Kern County from 2007 to 2019 is shown in **Table 4.16-3, *Automotive Fuel Consumption in Kern County 2007-2019***, (projections for the year 2019 are also shown). Although consumption slightly increased between 2014 and 2017, on-road automotive fuel consumption in Kern County has declined steadily from 2007. Heavy-duty vehicle fuel consumption has been increasing since 2012.

TABLE 4.16-3: AUTOMOTIVE FUEL CONSUMPTION IN KERN COUNTY 2007-2019

Year	On-Road Automotive Fuel Consumption (Gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (Gallons)
2007	482,802,885	305,057,882
2008	467,282,258	275,614,151
2009	457,753,568	254,307,817
2010	459,769,506	255,617,083
2011	453,029,571	256,460,303
2012	452,705,414	256,810,320
2013	454,062,915	275,920,754
2014	458,973,481	281,393,333
2015	469,620,303	284,648,995
2016	476,390,995	301,260,345
2017	463,754,740	304,118,169
2018	454,207,143	308,064,466
2019	445,151,657	311,403,744

Source: CARB 2019; 2019 numbers are projections only.

Project Setting

The Shafter-Wasco Recycling & Sanitary Landfill (SWSLF) is within the boundaries of Kern County. The project site is currently an existing solid waste sanitary landfill with ancillary activities, environmental monitoring, diversion programs, heavy equipment operation, haul vehicles, light duty employee vehicles, and various off-road and portable equipment. Diesel and gasoline fuel consumption occurs on the project site through the operation of heavy duty, light duty vehicles, and diversion equipment. Various diversion equipment, such as screeners, sorting line, carboard baler, and mobile loading dock on site are electrified.

The gatehouse and scales utilize energy. The project proponent installed solar panels to provide power to the onsite mobile office trailer. Power generation is sufficient to provide the needs of the office trailer, and no power is distributed to the power grid in Kern County. The permanent landfill gas flare station generally consists of a blower, air compressor, air dryer separator, control panel, condensate tank, and an enclosed flare. The flare system utilizes electricity and propane. The flare is designed to control and treat landfill gas and is not used as a landfill gas to energy project. The project site is served by Pacific Gas & Electric, as described in detail above.

4.16.3 Regulatory Setting

In the 2009 EIR, there was not a dedicated energy resources section. The regulatory setting for energy was briefly described in Chapter 4.4.3 – *Global Climate Change, Regulatory Setting*, pages 4.4-8 through 4.4-14 – of the 2009 EIR, and the following updates are being provided.

Federal, State, and local agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and CEC are two agencies with authority over different aspects of energy. Relevant federal, state, and local energy-related regulations are summarized below.

Federal

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA 2019). The U.S. Congress has specified that CAFE standards must be set at the “maximum feasible level” with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (USEPA, 2016).

National Energy Policy and Conservation Act

The National Energy Conservation Policy Act serves as the underlying authority for Federal energy management goals and requirements. Signed into law in 1975, it has been regularly updated and amended by subsequent laws and regulations. Pursuant to the Act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy

standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer’s average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can attain Federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy and Independence Security Act of 2007

The Energy and Independence Security Act of 2007 (EISA) sets Federal energy management requirements in several areas, including energy reduction goals for Federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use and increase in alternative fuel use. This Act also amends portions of the National Energy Policy and Conservation Act. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

State

Assembly Bill (AB) 32 Senate Bill 32

California’s major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the “California Global Warming Solutions Act of 2006.” AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Reductions in overall energy consumption have been implemented to reduce emissions. See Section 4.4, *Greenhouse Gas Emissions*, for a further discussion of AB 32.

In September 2016, the Governor signed into legislation SB 32, which builds on AB 32 and requires the state to cut GHG emissions to 40 percent below 1990 levels by 2030. With SB 32, the Legislature also passed AB 197, which provides additional direction for updating the Scoping Plan to meet the 2030 GHG reduction target codified in SB 32. CARB has published a draft update to the Scoping Plan and has received public comments on this draft but has not released the final version.

Additional energy efficiency measures beyond the current regulations are needed to meet these goals as well as the AB 32 greenhouse gas (GHG) reduction goal of reducing statewide GHG emissions to 1990 levels by 2020 and the SB 32 goal of 40 percent below 1990 levels by 2030 (see Section 4.4, *Greenhouse Gas Emissions*, for a discussion of AB 32 and SB 32). Part of the effort in meeting California's long-term reduction goals include reducing petroleum use in cars and trucks by 50 percent, increasing from one-third to more than one-half of California's electricity derived from renewable sources, doubling the efficiency savings achieved at existing buildings and making heating fuels cleaner; reducing the release of methane, black carbon, and other short-lived climate pollutants, and managing farm and rangelands, forests, and wetlands so they can store carbon.

2008 California Energy Action Plan Update

The 2008 Energy Action Plan Update provides a status update to the 2005 Energy Action Plan II, which is the State's principal energy planning and policy document (CPUC and CEC, 2008). The plan continues the goals of the original Energy Action Plan, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. First-priority actions to address California's increasing energy demands are energy efficiency, demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure), and the use of renewable sources of power. If these actions are unable to satisfy the increasing energy and capacity needs, the plan supports clean and efficient fossil-fired generation.

California Buildings Standards

Senate Bill 1078 and 107; Executive Order S-14-08, S-21-09, and SB 2X

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) accelerated the due date of the 20 percent mandate to 2010 instead of 2017. These mandates apply directly to investor-owned utilities. In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2 (2011) codified the 33 percent by 2020 goal.

Executive Order B-30-15; Senate Bill 100 and 350

In April 2015, the Governor issued Executive Order B-30-15, which established a GHG reduction target of 40 percent below 1990 levels by 2030. SB 350 (Chapter 547, Statutes of 2015) advanced these goals through two measures. First, the law increases the renewable power goal from 33 percent renewables by 2020 to 50 percent by 2030. Second, the law requires the CEC to establish annual targets to double energy efficiency in buildings by 2030. The law also requires the California Public Utilities Commission (CPUC) to direct electric utilities to establish annual efficiency targets and implement demand-reduction measures to achieve this goal. In 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable

resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state’s electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protects the environment; ensures reliable, secure, and diverse energy supplies; enhances the state’s economy; and protects public health and safety (Public Resources Code Section 25301[a]). The 2016 Integrated Energy Policy Report provides the results of the CEC’s assessments of a variety of energy issues facing California, including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California’s energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, update on trends in California’s sources of crude oil, update on California’s nuclear plants, and other energy issues.

California’s Renewables Portfolio Standard

First established in 2002 under SB 1078, California’s Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC, 2018).

In 2018, SB 100 further increased California’s RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC’s responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility’s renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. The project would be a RPS-eligible facility. Refer to Section 4.4, *Greenhouse Gas Emissions*, of this SEIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California’s CO₂ emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB’s Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025. Refer to Section 4.4, *Greenhouse Gas Emissions*, of this SEIR for additional details regarding this regulation (CARB, 2017c).

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the state’s GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5 and established a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.4, *Greenhouse Gas Emissions*, of this SEIR for additional details regarding these regulations.

Low-Carbon Fuel Standard

The Low-Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10 percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low-carbon fuel products or buy LCFS credits from other companies that develop and sell low-carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen.

California Air Resources Board

CARB’s Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot, and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle (ZEV) regulations 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 (PHEVs) 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 5 minutes at any given location. While the goal of this measure is primarily to reduce public

health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles

In addition to limiting exhaust from idling trucks, in 2008 CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower, such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Environmental Quality Act

In late 2018, the California Natural Resources Agency finalized updates to the 2018 CEQA *Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and for 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, 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.
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 CEQA Guidelines, and to ensure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the proposed project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the proposed project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the proposed project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the proposed project on peak and base period demands for electricity and other forms of energy.
- The degree to which the proposed project complies with existing energy standards.
- The effects of the proposed project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Local

Kern County General Plan

The Kern County General Plan Energy Element primarily discusses the County's wealth of existing and potential energy resources which include oil, natural gas, and electricity production. The goals, policies, and implementation measures in the Energy Element of the Kern County General Plan 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 such as the proposed project. Those measures are not listed below.

Chapter 5. Energy Element, 5.4.5 Solar Energy Development

Goal

Goal 1 Encourage safe and orderly commercial solar development.

Policies

Policy 1 The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3 The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

4.16.4 Impacts and Mitigation Measures

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

Methodology

This analysis addresses the proposed project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is assessed. Specific analysis methodologies are discussed below. The assessment presented herein is based in part on the *Energy Conservation Study for Composting and Waste Diversion Project*, Shafter-Wasco Recycling & Sanitary Landfill prepared for the proposed project. A full copy of the report is provided in Appendix F of this SEIR.

Construction

Regarding construction energy use, as shown in Table 4.16-4, *Construction Energy Use*, in the form of gasoline and diesel consumption, it is assumed that only diesel fuel would be used in off-road construction equipment. On-road vehicles for construction workers and delivery trips are assumed to be solely powered by gasoline. Construction activity durations, off-road equipment, on-road construction vehicles, horsepower ratings, hours of use, vehicle class, load factors, total trips, trip type, number of working days, and fuel usage were used to calculate construction-related fuel use. The *Energy Conservation Study for Composting and Waste Diversion Project* (Appendix F) in this SEIR, was prepared utilizing default assumptions from California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a statewide program designed to calculate air pollutant emissions for development projects in California using land use data and utilizes appropriate default data that can be used if site-specific information is not available. Average brake-specific fuel consumption and diesel fuel properties (heating value and density) from the United States Environmental Protection Agency AP-42 (Section 3.4) were used to obtain a fuel per horsepower-hour factor. All modeling assumptions, results, and data inputs are presented in the *Energy Conservation Study for Composting and Waste Diversion Project*.

Table 4.16-4: Project Construction Energy Use	
Diesel	Quantity
Off-Road Construction Equipment	29,508 Gallons
On-Road Construction Equipment	17,748 Gallons
Gasoline	
On-Road Construction Equipment	3,550 Gallons
Water	
Construction Water Use	5,511,500 Gallons
Electricity	
Construction Water Pump	20,798 kWh
Source: SCS Engineers, 2020 November	

Operation

Regarding operational energy usage, shown below in **Table 4.16-5, Operational Energy Use**, it is assumed that diesel fuel would be used for off-road operational equipment associated with equipment for the composting operation and the expansion of landfill operating hours. Gasoline usage is assumed to be consumed by on-road operational worker vehicles and smaller off-road operational equipment. Fuel use from two additional operational workers traveling to the project was estimated. For off-road operational equipment, horsepower ratings, load factors, daily hours of use, total usage hours, vehicle class, and fuel usage were used to calculate construction-related fuel use. Energy use, in the form of electricity usage, consumed by the project were calculated as well. Electricity usage and consumption to run the following – well water pump, leachate pump, process water pump, blowers, screeners, sort belt, and control and monitoring building. The *Energy Conservation Study for Composting and Waste Diversion Project* (Appendix F) was prepared utilizing default assumptions from California Emissions Estimator Model (CalEEMod), Version 2016.3.2. All modeling assumptions, results, and data inputs are presented in the *Energy Conservation Study for Composting and Waste Diversion Project*.

Table 4.16-5: Operational Energy Use (Annual)	
Diesel	Quantity
Operational Worker Travel	5 Gallons
Off-Road Construction Equipment	56,581 Gallons
Gasoline	
Operational Worker Travel	867 Gallons
Off-Road Construction Equipment	83 Gallons
Water	
Operational Water Use	3,837,520 Gallons
Electricity	
Monitoring Building	7,563 kWh
Composting Process Equipment	267,213 kWh
Source: SCS Engineers, 2020 November	

Thresholds of Significance

Since the certification of 2009 EIR, the Kern County CEQA Environmental Checklist was updated to identify the following criteria to determine that a project could potentially have a significant adverse effect on energy resources. Appendix F of the CEQA *Guidelines* does not prescribe a threshold for the determination of significance but focuses on reducing and minimizing inefficient wasteful and unnecessary consumption of energy. The proposed project would have a significant impact on 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.
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

Project Impacts

Impact 4.16-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction (Short Term)

Construction of the composting facility (at full build-out) and the self-haul recycling dumping pad is expected to require the use of non-renewable resources in the form of diesel and gasoline to power off-road construction equipment and on-road vehicles. As shown in **Table 4.16-4, *Project Construction Energy Usage***, construction activities are expected to consume approximately 47,255 gallons of diesel and 3,550 gallons of gasoline. The electricity to power the well water pump during construction is estimated to be 20,798 kWh. The consumption of fuels and electricity during construction would be irreversible.

Although construction activities would be temporary, the proposed project may result in a wasteful, inefficient, or unnecessary consumption of energy resources if available control measures are not implemented. The project would utilize construction contractors who demonstrate compliance with applicable California Air Resource Board (CARB) regulations restricting the idling of heavy-duty diesel motor vehicles and governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel equipment. CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants. CARB has also adopted emission standards for off-road diesel construction equipment of greater than 25 hp. The emissions standards are referred to as “tiers” with Tier 4 being the most stringent (i.e., less polluting). While intended to reduce construction emissions, compliance with the above anti-idling and emissions regulations would also result in energy savings from the use of more fuel-efficient engines. At this current time, the use of alternative fuels or electrically powered off-road operational equipment has not been analyzed for project related construction equipment.

In addition, implementation of Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality* and Section 4.4, *Greenhouse Gas Emissions*, of this SEIR, would require the use of energy-efficient equipment during construction as well as compliance with the construction permitting requirements and applicable construction regulations through the San Joaquin Valley Air Pollution Control District. Implementation of MM 4.3-1 would also ensure compliance with Title 13, CCR, Section 2449 et seq., which imposes construction equipment idling restrictions. Compliance with Title 13 would also help to reduce unnecessary fuel consumption during project construction. With mitigation, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, and this impact would be less than significant. A detailed breakdown of all construction tasks, modeling assumptions, results, and data inputs are presented in the *Energy Conservation Study for Composting and Waste Diversion Project*.

TABLE 4.16-6: PROJECT CONSTRUCTION ENERGY USAGE		
	Kern County Annual Diesel Fuel Use (gal)	Kern County Annual Gasoline Fuel Use (gal)
	247,000,000 ^{a*}	390,000,000 ^{a*}
Construction		
Heavy-Duty Construction Equipment	29,508 ^b	—
On-Road Vehicles	17,748 ^b	3,550 ^b
% of County	0.019%	0.0009%
^{a*} California Energy Commission, 2017. ^b Data from <i>Energy Conservation Study for Composting and Waste Diversion Project, Shafter-Wasco Recycling & Sanitary Landfill</i> , by SCS Engineers		

Operation (Annual, Long Term)

Fuel Consumption

Non-renewable energy resources, in the form of diesel and gasoline, would be consumed during operation of the proposed project. The consumption of these resources would be predominantly associated with operational equipment for the composting operations and the expansion of the landfill hours for the receipt of waste. Energy use associated with annual operational activities is summarized in **Table 4.16-7, Project Operational Energy Usage**. As shown, operation of the proposed project would consume approximately 56,586 gallons of diesel fuel (off-road equipment) and 950 gallons of gasoline per year (worker vehicles and off-road equipment).

TABLE 4.16-7: PROJECT OPERATIONAL ENERGY USAGE		
	Kern County Annual Diesel Fuel Use (gal)	Kern County Annual Gasoline Fuel Use (gal)
	247,000,000 ^a	390,000,000 ^a
Diesel Use for Operations		
On-Road Vehicles	5	—
Off-Road Equipment	56,581 ^b	—
Gasoline Use for Operations		
On-Road Vehicles	—	867 ^b
Off-Road Equipment	—	83 ^b
	—	—
% of County	0.023%	0.0002%
^{a*} California Energy Commission, 2017. ^b Data from <i>Energy Conservation Study for Composting and Waste Diversion Project, Shafter-Wasco Recycling & Sanitary Landfill</i> , by SCS Engineers		

Operational equipment dedicated to the composting and self-haul recycling operation is projected to consume 48,440 gallons of diesel annually. Equipment includes a medium range loader, horizontal grinder, a tarping machine, and smaller skid steer loader. Of the 48,440 gallons, the horizontal grinder is projected to consume 39,197 gallons of diesel. The project applicant is actively transitioning the horizontal grinder from diesel powered to electric powered so as to further reduce overall air and health impacts associated with the combustion of diesel fuels. However, for the purposes of energy analysis for the project, the grinder will remain as diesel powered. The tarping machine would be gasoline powered but could be electrified by the project proponent to further reduce fuel combustion. The gasoline and diesel usage associated with on-road vehicular trips is calculated based on the vehicle miles traveled, vehicle fleet mix, and average fuel usage rates obtained from CARB's EMFAC2017 model.

Operational equipment associated with the expansion of landfill operations is projected to consume 8,141 gallons of diesel on an annual basis. Equipment includes a compactor, dozer, loader, motor grader, and water truck. The project is not adding additional equipment to the fleet. The project will be utilizing existing equipment currently operating at the project site. A detailed breakdown of all operating equipment (including composting facility and hours of landfill expansion), modeling assumptions, results, and data inputs are presented in the *Energy Conservation Study for Composting and Waste Diversion Project*, Appendix F of this SEIR.

Also as shown in **Table 4.16-7**, above, the proposed project's annual diesel and gasoline consumption would represent a small fraction of the County's annual diesel and gasoline use. The proposed project would not result in wasteful, inefficient, or unnecessary consumption of fuels and impacts would be less than significant.

Electricity Usage (Short-Term, Annual)

The electricity usage associated with operation of the proposed project is based on the electricity needed to utilize the well water pump, leachate pump, process water pump, blowers, screeners, sort belt, and control and monitoring building. A breakdown of horsepower ratings, quantity of units, total hours of operation per year, motor efficient, and fan/pump efficient is provided in the *Energy Conservation Study for Composting and Waste Diversion Project*. Energy intensity factors are based on CalEEMod defaults for Kern County. Total projected electricity usage is 274,776 kWh/year annually for composting related operations. The majority of electricity usage is associated with the operation of the thirty-two (32) blowers, accounting for roughly 72.39% of electricity for the project or 198,933 kWh/yr. However, it is highly unlikely that all 32 blowers will be in continual operation on a daily basis, nor is it highly likely that all 32 blowers will be operational at the same time. This is due to the cyclical nature of inbound compostable feedstocks and the three-stage composting process. Certain stages of the composting process will require the use of blowers more frequently. Whereas the projected blowers' electricity usage is presented, it is anticipated that usage will be significantly less in operation. Possible techniques and engineering controls to reduce consumption of energy resources during normal operation would include modulating the blowers to an oxygen and temperature sensor setpoint and cycling the blowers' pumps to maintain tank water levels. The remaining 26.61% of electricity usage, or 75,843 kWh/year, will be consumed through the continued operation of the control building, water pumps, leachate pumps, process water pumps, sort line, and screeners for the composting process.

As described in Section 4.16.4.2, *Environmental Setting*, of this SEIR, above, Kern County consumed 15,942 GWh in 2018, and the State of California consumed 285,488 GWh of electricity in 2018 (CEC, 2018b). California's non-CO2 emitting electric generation categories (nuclear, large hydroelectric, and

renewables) accounted for 53 percent of its generation. The proposed project contributes only 269,360 kWh/year, a significantly low value compared to Statewide usage. **Table 4.16-8**, below, demonstrates the proposed operational electricity usage of the project. The impact is the contribution of .000009% overall. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of electricity and impacts would be less than significant.

Table 4.16-8: Project Electricity Usage	
Equipment or Process	Operational, Annual Usage (kWh)*
Well Water Pump	9,042
Leachate Pump	5,235
Process Water Pump	2,618
Blowers	198,933
Screener – Screen Feedstocks	27,930
Screener – Finished Compost	3,491
Sort Belt	14,547
Monitoring Building	7,563
Total Usage	269,359
*Data from Energy Conservation Study for Composting and Waste Diversion Project, Shafter-Wasco Recycling & Sanitary Landfill, SCS Engineers. Data shown in kWh/yr.	

Natural Gas

Operation of the proposed project would not result in any natural gas consumption on the site. Therefore, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure 4.3-1, (Section 4.3, *Air Quality*, in this SEIR) would be required.

Level of Significance

With implementation of Mitigation Measure MM 4.3-1, (Section 4.3, *Air Quality*, in this SEIR) impacts would be less than significant.

Impact 4.16-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

At the time of this writing, Kern County does not have an adopted Energy Plan. Kern County does have an Energy Element in their General Plan that focuses primarily on the County's energy resources and municipal measures such as encouraging the County to seek State and federal energy grants, have

discussions with various energy industries, and develop long-term compensation for wildlife habitat, to name a few.

Construction

Construction equipment would be required to comply with federal, state, and regional requirements where applicable. With respect to truck fleet operators, the USEPA and NHTSA have adopted fuel efficiency standards for medium-, heavy-duty, and heavy-heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and will result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. The USEPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type. The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 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.

Operation

In order to meet the AB 32 GHG emissions reduction mandate, the Scoping Plan incorporated the Waste Management Sector, categorized as a Key Economic Sector (CARB, 2013). The Waste Management Sector covers all aspects of solid waste and materials management, including the recycling, reuse, and remanufacturing of recovered material; composting and anaerobic/aerobic digestion; municipal solid waste (MSW) thermal operations (waste-to-energy); biomass management (combustion, composting, chip and grind); and landfilling. The primary source of GHG emissions from the waste management sector is the direct emission of methane from the decomposition of organic material in landfills. Organic materials account for a significant portion of California's overall waste stream. Food waste accounts for approximately 18 percent of total landfill disposal. Increasing composting of organic waste will help reduce methane emissions from organic waste disposed in California's and Kern County's landfills. In addition, finished compost has numerous benefits including water conservation, improved soil health, and carbon sequestration.

In September 2016, Governor Brown signed into law SB 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. The new law codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605 (Lara, Chapter 523, Statutes of 2014), to achieve reductions in the statewide emissions of short-lived climate pollutants. As it pertains to this project, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent recycling, composting, or source reduction of materials by 2025 established by targeting agricultural material, food

material, vegetative food material, manure, and other compostable, organic, and recyclable materials. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The project itself is a key contributor to the reduction of GHG emissions and is consistent with the key recommendations and actions of AB 32's Scoping Plan.

The proposed project would not conflict with or obstruct the implementation of any State or local plan for renewable or energy efficiency. Implementation of the proposed project would not conflict with existing local energy standards. Development of the proposed project would not cause inefficient, wasteful or unnecessary energy use, and impacts would be less than significant. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description* of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in **Table 3-11, Cumulative Project List**, in Chapter 3, *Project Description*, of this SEIR, there are seventeen (17) projects identified within the vicinity of the proposed project.

The geographic context for the analysis of cumulative impacts on electricity and natural gas is PG&E's service area because the proposed project and related projects are located within the service boundaries of PG&E. Cumulative projects in the project area consist of telecommunications facilities, a biogas facility, dairy operations, a solar power generation facility, and other auxiliary uses such as animal services and event venues. Other planned projects would be required to comply with policies, plans, and regulations associated with the use and consumption of energy resources, during project construction or operation. Additionally, all planned projects in the vicinity of the project are subject to environmental review by a Lead Agency and would be required to demonstrate impacts associated with energy use, including diesel, gasoline, and electricity consumption.

The main contribution of energy consumption from the proposed project would be from construction equipment usage during the construction phase of the project and the electricity consumption of ancillary support items of the proposed composting operation (blowers, pumps, etc.). Construction emissions would be finite and temporary and would cease at the end of construction activities. The project would contribute to an increase in electricity usage but may be offset through the implementation of techniques and engineering controls to reduce consumption of energy resources.

Although the proposed project would result in a contribution to cumulative energy consumption in California, construction and operation of the project would implement Mitigation Measure 4.3-1, as

provided in Section 4.3, *Air Quality*, of this SEIR, which would require the use of energy-efficient equipment during project construction, compliance with the construction permitting requirements and applicable regulations, and operational permitting requirements through the San Joaquin Valley Air Pollution Control District. Overall, the proposed project would not contribute to cumulative energy consumption in the project's vicinity. Thus, the proposed project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure 4.3-1 (Section 4.3, *Air Quality*, in this SEIR) would be required.

Level of Significance

With implementation of Mitigation Measure 4.3-1, (Section 4.3, *Air Quality*, in this SEIR) cumulative impacts would be less than significant.

4.17.1 Introduction

As described in Chapter 2 of this Supplemental Environmental Impact Report (SEIR), an EIR titled *Final Environmental Impact Report for Shafter-Wasco Sanitary Landfill Permit Revision Project* was previously certified in 2009. The previously certified EIR is referred to as the “2009 EIR” throughout this chapter. This SEIR has been prepared to address the proposed Shafter-Wasco Composting and Waste Diversion project. Applicable information from the 2009 EIR is incorporated into this chapter by reference, in accordance with the provisions of Section 15150 of the CEQA Guidelines. The full text of the 2009 EIR is presented in Appendix B of this SEIR.

Since the certification of the 2009 EIR, a wildfire resources section has been added to the Kern County CEQA Environmental Checklist. This section of the SEIR describes the affected environment and regulatory setting for wildland wildfire. The section also includes the physical and regulatory setting for the project, the methods used in evaluating these potential impacts, the criteria used to evaluate the significance of potential impacts, and an analysis of potential impacts from wildland 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 Kern County Fire Hazards Severity Zone (FHSZ Maps).

4.17.2 Environmental Setting

Local Site Characteristics Setting & Fire Environment

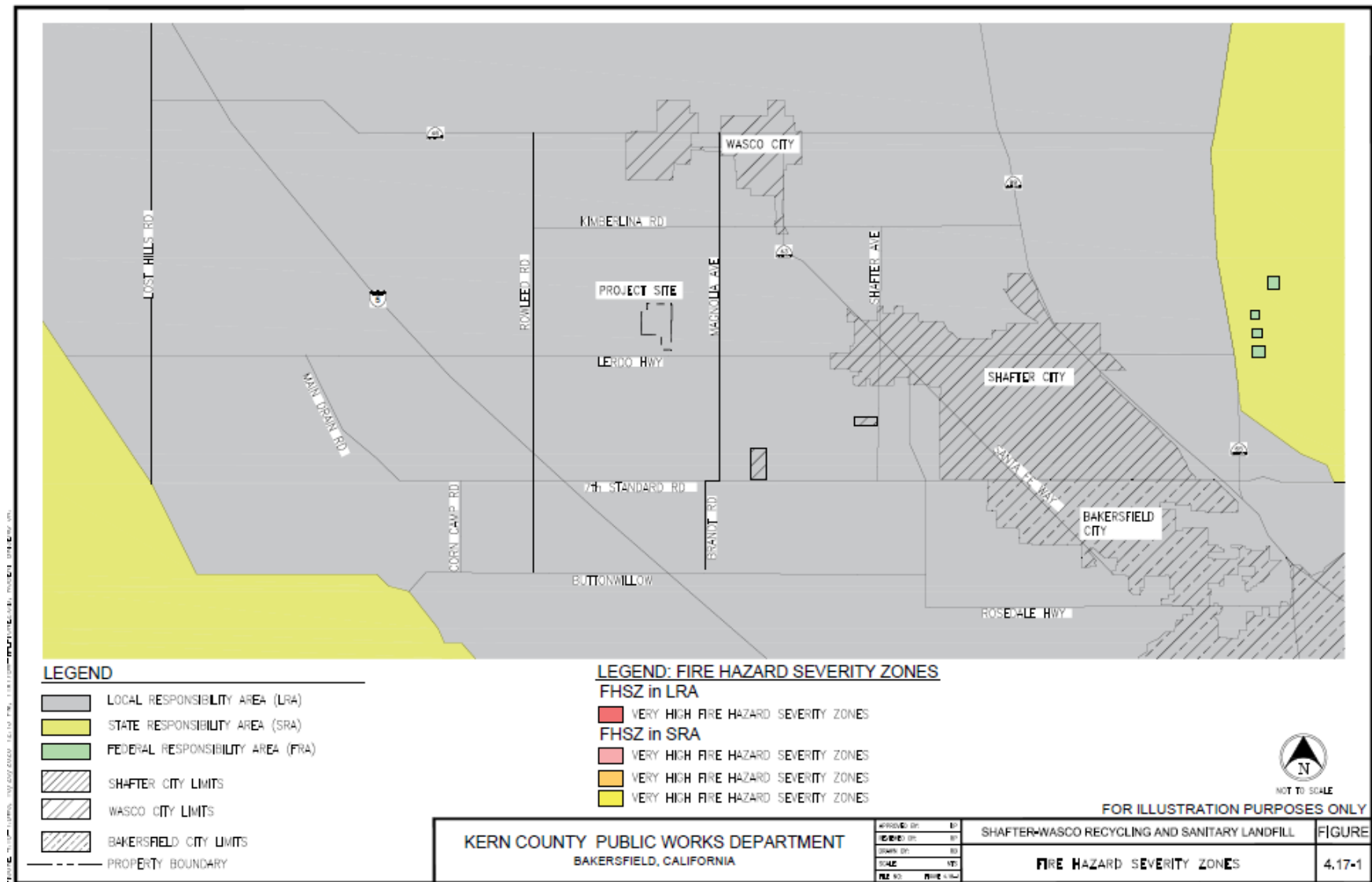
As described in Chapter 3, *Project Description*, of this SEIR, the project site consists of an existing solid waste municipal landfill, which includes active landfill operations, diversion activities, and landfill buffer lands. The project site is surrounded entirely by agricultural development. All lands associated with the project have been extensively disturbed and remain in active landfill operations and farming activities.

CAL FIRE and FHSZ maps are 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 FHSZ 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. FHSZ Maps are designated within Local Responsible Areas (LRAs), where local jurisdictions are financially responsible for the costs of wildfire prevention and suppression, and State Responsibility Areas (SRAs), where the State is responsible for such costs.

According to the FHSZ Maps for the LRA in Kern County, the project site is classified as a LRA Unincorporated Unzoned region (see **Figure 4.17-1**), *Fire Hazard Severity Zones*. The project is not identified as being located in a Federal Responsibility Area (FRA). The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone (see **Figure 4.17-1**), *Fire Hazard Severity Zones*. As such, the project is not located in or near state responsibility areas and lands are not classified as being in very high fire hazard severity zones

Fire History

Fire history information can provide an understanding of fire frequency, fire type, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Incidents Map, which shows the history of fires back through 2013 (CAL FIRE 2019a) and CAL FIRE's Fire and Resource Assessment Program (FRAP) database (CAL FIRE 2019b). Based on a review of this data and map information, no fires in recorded history have burned across or within the proximity of the project site. The closest recorded fires were the Quail Fire (July 2017) and Famoso Fire (July 2016), approximately 24.5 miles east and 39 miles east of the project site, respectively, according to a review of CAL FIRE's mapping information.



Vegetation (Fuels)

The project site contains an active Class III municipal solid waste disposal facility with ongoing landfilling operations (such as soil borrow) and diversion programs that operate in a heavily disturbed area with no established habitat and include areas where vehicles and equipment frequently travel. The site is comprised of the extensively disturbed landfill and landfill buffer areas which have been in continuous operation since July 1972. The project site is characterized by extremely sparse vegetation. Ongoing and active landfilling operations and diversion activities restrict the growth of vegetation. Agricultural land is located in the immediate vicinity of the project site, but outside of the proposed project boundary. The location of the proposed composting facility landfill buffer is heavily disturbed on a routine basis so as to control for vegetative fire. The location of the proposed landfill buffer is heavily disturbed and is currently under agricultural development. Vegetation is permitted to reestablish on the side slopes of the landfill for the purposes of slope stabilization, erosion control, dust control, and aesthetic value. Additionally, beneficially reused wood chips may be placed on side slopes and within the permitted facility boundary as needed. The maximum acreages of wood chips and side slope vegetation is 83 acres. Landscaped trees are planted along certain perimeter fence lines and the entrance road within the site. As described in the *Archaeological Survey of Approximately 20 Acres of Land for the Shafter-Wasco Recycling and Sanitary Landfill Proposed Composting Facility and Solid Waste Facility Buffer*, (Stantec, 2019), Appendix G, of this SEIR, the entire project area (the composting and landfill buffer areas) are devoid of any vegetation, has been previously graded, and ground visibility of the project area is excellent (100%).

4.17.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

2016 California Fire Code

The 2016 California Fire Code (Title 24, Part 9, of the California Code of Regulations) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. The Fire Code includes regulations regarding fire-resistance-

rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

2016 California Building Code, Chapter 7A

Chapter 7 of the 2016 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. The building code details the materials, systems, and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code 4291-4299

California Public Resources Code Section 4291-4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and is important for soil stability may be maintained, as may single specimens of trees or other vegetation that is maintained to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. California Public Resources Code Section 4291-4299 et seq. applies to both high fire threat districts, as determined by the California Public Utilities Commission pursuant to its rulemaking authority, and SRAs. As previously stated under section 4.17.2, *Environmental Setting*, the portion of the project site within an SRA area is designated as SRA Moderate and is outside of areas identified by CAL FIRE as having substantial or very high risk. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Kern County General Plan, Chapter 4: Safety Element

4.6 Wildland and Urban Fire

Policies

- | | |
|----------|---|
| Policy 1 | Require discretionary projects to assess impacts on emergency services and facilities |
| Policy 4 | Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents |
| Policy 6 | All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department |

Implementation Measures

Measure A Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore (Kern County Fire Code 2016).

Kern County Fire Department Wildland Fire Management Plan

The Kern County Fire Department (KCFD) Wildland Fire Management Plan (Plan) adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses.

Kern County Fire Department (KCFD) Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan (KCFD, 2019) approved March 2018, assesses the wildland fire situation throughout the SRA within the County. Like other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. The plan provides an annual report of unit accomplishments. Additionally, the plan provides an overview of KCFD battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is divided into six different fuel management areas – Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The Project site is not located within a SRA.

4.17.4 Impacts and Mitigation Measures

Methodology

This SEIR section describes the impact analysis relating to wildfire resources 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.

Wildfire impacts are considered based on – 1) offsite wildland fires that could result due to the proposed project, and 2) onsite generated combustion that could affect surrounding areas. The proposed project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE FHSZ Maps, FRAP data and fire history, vegetation data from the Archaeological Survey Report by Stantec (Appendix G), project location maps, and project specific characteristics. Using the aforementioned resources and professional judgement, impacts were analyzed according to California Environmental Quality Act (CEQA) significance criteria described below.

Thresholds of Significance

Since the certification of the 2009 EIR, the Kern County CEQA Environmental Checklist has been updated to identify the following criteria, as established in the Appendix G of the CEQA *Guidelines*, to determine if a project could potentially have a significant adverse effect related to wildfire resources.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- 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 4.17-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.

According to the FHSZ Maps for the LRA in Kern County, the project site is classified as an LRA Unincorporated Unzoned region. The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard

Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. The project is not identified as being located in a Federal Responsibility Area. See **Figure 4.17-1, Fire Hazard Severity Zones**, above, for project location in relationship to severity zones. The potential for wildfires to occur on the project site is considered to be extremely remote since the site is not located in a high hazard fire zone.

The Kern County Fire Department, Shafter Fire Station No. 32, located at 325 Sunset Street, Shafter, California, and Wasco Fire Station No. 31, located at 2424 7th Street, Wasco, California, are about ten to fourteen minutes from the proposed project location. These fire stations can respond to wildfires, if they should occur although unlikely.

The project is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan related to wildfire. As such, there will be no impacts to adopted emergency response or evacuation plans. Therefore, no impacts on wildfire conditions would occur as a result of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.17-2: The project would cause 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.

According to the FHSZ Maps for the LRA in Kern County, the project site is classified as an LRA Unincorporated Unzoned region. The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. The project is not identified as being located in a Federal Responsibility Area. See **Figure 4.17-1, Fire Hazard Severity Zones**, for project location in relationship to severity zones. The potential for wildfires to occur on the project site is considered to be extremely remote since the site is not located in a high hazard fire zone.

The project does not modify the existing environment related to slope or prevailing winds that would exacerbate wildfire risks. Occupants that would be exposed to wildfire pollutant concentration on-site consist of County employees working and visiting the project along with contractor employees. If a wildfire was to occur, exposure of pollutant concentrations from a wildfire to project occupants would be anticipated. Project occupants are equipped with various personal protective equipment (N95 masks, NOISH-approved dust masks, work vehicles, and enclosed heavy-duty equipment) that serve as measures to protect occupants from pollutants. Project occupants are trained in a wildfire smoke protection program.

The project is not located in or near state responsibility areas and lands are not classified as very high fire hazard severity zones. The project does not propose modification that would not factors to exacerbate

wildfire risks or expose occupants to pollutants. Therefore, no impacts on wildfire conditions would occur as a result of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.17-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

According to the FHSZ Maps for the LRA in Kern County, the project site is classified as an LRA Unincorporated Unzoned region. The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. The project is not identified as being located in a Federal Responsibility Area. See **Figure 4.17-1, Fire Hazard Severity Zones**, for project location in relationship to severity zones. The potential for wildfires to occur on the project site is considered to be extremely remote since the site is not located in a high hazard fire zone.

No new infrastructure, such as roads, fuel breaks, power lines, utilities, or emergency water sources, is proposed that would exacerbate wildfire risk or expose people or structures to significant fire risks. Existing infrastructure, to assist with wildfire response, includes two existing County-owned water systems on site – 1) one well produces 60 gallons per minute for the 10,000-gallon water tank; and 2) one well equipped with a pump rate to produce 500 gallons per minute feeding a steel tank with a capacity of 63,400 gallons. Maintenance related to existing and proposed infrastructure and equipment will follow standard manufacturer guidelines so as to not exacerbate the risk of wildfire. Existing equipment are furnished with fire extinguishers and available water supply minimized wildfire risk impacts to the environment. The project is not located in or near state responsibility areas and lands are not classified as very high fire hazard severity zones. Therefore, no impacts on wildfire conditions would occur as a result of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Impact 4.17-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

According to the FHSZ Maps for the LRA in Kern County, the project site is classified as an LRA Unincorporated Unzoned region. The project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. The project is not identified as being located in a Federal Responsibility Area. See **Figure 4.17-1, Fire Hazard Severity Zones**, for project location in relationship to severity zones. The potential for wildfires to occur on the project site is considered to be extremely remote since the site is not located in a high hazard fire zone.

The project will not expose people or structures to downslope or downstream flooding or landslides as a result of runoff, post-fire instability, or drainage changes. The proposed project area is, in general, topographically flat, with an existing landfill at 384 feet above Mean Sea Level. The existing landfill and proposed project are designed to control for stormwater and drainage on site, consistent with Waste Discharge Requirements and state minimum standards of Title 27 of the California Code of Regulations. There are no natural streams or other natural waterways located on site or in the immediate vicinity of the project area. No evidence of wetlands occurs on the project site, and jurisdictional waters are not present on site. The project is not located in or near state responsibility areas and lands are not classified as very high fire hazard severity zones. Therefore, no impacts on people or structures including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage change impacts would occur as a result of the proposed project.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impacts would occur.

Cumulative Impacts

As described above, according to the FHSZ Maps for the LRA in Kern County, the project site is not located within a fire zone, and as such, is not in an area of “Federal Responsibility” and is not identified as being a wildland fire interface on the California Department of Forestry and Fire Protection Fire Hazard Severity Zones Map for Kern County. However, impacts of the proposed project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. As described in Chapter 3, *Project Description*, of this SEIR, there are other commercial and residential in the region that are reasonably foreseeable. No other landfill, composting, or recycling projects are anticipated in the region. As shown in **Table 3-4, Cumulative Project List**, there are seventeen (17) projects identified within the vicinity of the proposed project.

Incremental impacts of the proposed project could contribute to a cumulative effect on wildland fire risk in combination with other past, present, or reasonably foreseeable future actions. For purposes of this analysis, the geographic scope of the cumulative effects analysis for wildfire impacts is considered the immediate and surrounding areas of five miles. This geographic scope was selected because the land within the region possesses relatively similar uses, including agricultural development, farming activities, rural roadways, scattered rural residences, and associated uses. No lands are classified as being within Moderate, High, or Very High hazard severity zone.

Regarding adopted emergency response plans, all identified projects in Chapter 3: *Project Description*, **Table 3-4, Cumulative Projects List**, of this SEIR, would be required to provide adequate emergency access, fire protection, and submit emergency evacuation plans in accordance with Kern County Fire Code and Building Code requirements and prior to the issuance of a building permit. Regarding cumulative impacts related to exposure of occupants to pollutant concentrations from a wildfire, the proposed project and related projects are not within SRAs and/or High Fire Hazard Severity Zones. All related projects would be required to implement design features in accordance with the Fire Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire.

Related projects may require associated infrastructure such as roads, fuel breaks, water sources, or 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, as Lead Agency, 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. In addition, 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. As concluded in the discussion of project impacts above, the project would have no cumulative impact.

Mitigation Measures

No mitigation would be required.

Level of Significance after Mitigation

No impacts would occur.

Chapter 5

Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less-than-Significant

Section 15128 of the *CEQA Guidelines* requires that an EIR “contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the Supplemental Environmental Impact Report (SEIR). The SEIR’s contents were established based on a Notice of Preparation/ Initial Study (NOP/IS) that was prepared in accordance with the *CEQA Guidelines* and in consideration of public and agency input received during the scoping process (see Appendix A of this SEIR).

Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this SEIR. 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 Population and Housing, Public Services, and Recreation. As such, this SEIR does not contain a section on these environmental topics.

For all other resource areas, this SEIR contains a comprehensive analysis of potential environmental impacts. After further study and environmental review, as provided in this SEIR, 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 SEIR for their potential significance:

- Aesthetics
- Agriculture and Forestry Resources
- 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
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

5.2 Significant Environmental Effects that Cannot Be Avoided

Section 15126.2(b) of the *CEQA Guidelines* requires that an 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 Chapters 4.1 through 4.17 of this SEIR.

After further study and environmental review, as provided in this SEIR, it was determined that cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

Impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible:

- **Air Quality:** Project-level construction and operational emissions are less than significant with mitigation. While the project does not result in a cumulatively considerable air quality impact, criteria pollutant emissions are considered significant and unavoidable because the region is in nonattainment for designated pollutants, and because of scientific uncertainty regarding the relationship between NO_x and VOC reductions, and because projects that may occur within the SJVAB that are outside the discretionary approval authority of the County may not fully offset their emissions with an agreement, may not fully comply with air destruct regulations and rules, or acquire Emission Reduction Credits.

5.3 Irreversible Impacts

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

The proposed 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 fuel resulting from heavy equipment operation. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized.

5.4 Growth Inducement

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

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

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. As described in Chapter 3, *Project Description*, of this SEIR, the project would expand existing landfilling operations and operation a new composting facility and would not result in the construction of any residential uses (or any other types of uses) that could directly induce population growth in Kern County or the surrounding vicinity. The proposed project would result in increased temporary onsite construction workforce. It is anticipated that the construction workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Bakersfield, Shafter, Wasco, or other local communities.

Operation of the proposed project would increase the total number of permanent employees by two (2). 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 demand. Therefore, the additional of 2 permanent employees would not result in significant increase in growth. No expansion of municipal infrastructure or public services would be required to accommodate the project. Additionally, the project, increase landfill operations and operation of a new composting facility, would not induce new growth but instead response to increased market demand and solid waste management needs of the region.

6.1 Introduction

CEQA requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination) and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the *CEQA Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the project or its site that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly;
- The No-Project, Alternative 1, 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; and
- 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 to foster 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 Section 15126.6(f)(1) of the *CEQA Guidelines*) 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.

Significant Impacts of the Project after Mitigation

Implementation of the proposed project would not result in any significant and unavoidable project-level construction or operational impacts. However, the project would contribute toward significant and unavoidable air quality cumulative impacts (for criteria pollutants only) expected to occur based on future activities that are beyond the jurisdiction and control of the County, or could occur as a result of scientific uncertainty, as described in Chapter 4.3, *Air Quality*, of this SEIR. With the mitigation measures described in Chapter 4, Section 4.3-2, *Environmental Setting*, and Section 4.3-5, *Impacts, and Mitigation Measures*, of this SEIR, impacts in all other resource areas would be reduced to less than significant. Nevertheless, per the state CEQA *Guidelines*, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources.

6.2 Project Objectives

CEQA requires a statement of project objectives (Section 15124 of the CEQA *Guidelines*). The proposed project would expand hours for the receipt of waste and ancillary/facility hours of operations of an existing Class III municipal solid waste landfill and allow for the operation of a covered aerated static pile composting system and facility, which would assist the State of California and Kern County in complying with the California's numerous statutes (Assembly Bills 341, 1594, 1826, and Senate Bill 1383) requiring the reduction of methane emissions resulting from landfill operations and the removal of organic materials from the disposal waste stream. The following are the objectives of the proposed project:

- Assist state and local governments (incorporated cities in Kern County) in complying with California's mandate of reducing greenhouse gas emissions by diverting organic waste from being disposed of in landfills;
- Facilitate CalRecycle's statewide diversion goal of 75 percent recycling, composting, or source reduction of materials by 2025 established under SB 1383 by targeting agricultural material, food material, vegetative food material, manure, and other compostable, organic, and recyclable materials;
- Implement an organic waste recycling program to divert organic waste consistent with the requirement of AB 1826, Mandatory Commercial Organics Recycling, which requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week;
- Assist in requirement of AB 32 (California Global Warming Solutions Act of 2006) to reduce GHG emissions to 1990 levels by 2020. In 2016, Legislature passed SB 32 and AB 197, which requires a 2030 GHG emissions reduction target of 40 percent below 1990 levels;
- Construct and operate an efficient and cost-effective regional covered aerated static pile composting facility to accommodate the current and future needs of local municipal, commercial, business, and residential sources by diverting organic waste from landfills to reduce volatile organic compound and greenhouse gas emissions resulting from landfill operations;
- Reduce outbound traffic volume of raw organic waste to off-site regional facilities, utilizing existing County-owned lands and existing local infrastructure to compost locally sourced organic waste;

- Utilize portions of an existing County-owned and operated landfill for a composting facility and self-haul recycling operations to preserve prime farmland and minimize environmental impacts;
- Manufacture high quality compost for use in sustainable agricultural practices, community garden and beautification projects, residential use, and other beneficial end uses;
- Offer effective and enhanced solid waste disposal and diversion services to the residents of Kern County by providing additional hours for disposal and diversion; and
- Increase buffer area around the landfill and allow the inclusion of uses within the buffer area ancillary to landfill operations, as required by the policies and implementation measures of the Kern County General Plan.

6.3 Overview of Alternatives to the Project

The purpose of the alternatives analysis is to analyze alternatives that could reduce the significant impacts of a project. Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project and the feasibility of the alternatives considered, a range of alternatives is analyzed below and summarized in **Table 6-1, Summary of Development Alternatives**. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.7, *Environmentally Superior Alternative*, below.

Alternative 1: No Project Alternative

The CEQA *Guidelines* require EIRs to include a No Project, Alternative 1, for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative.

Accordingly, Alternative 1, the No Project Alternative, assumes that the project site would continue to operate as a municipal solid waste landfill with diversion activities as it has since 1972, and existing project operations would continue with no authorized expansions or changed operations. The proposed expansion and addition or modification of the following components would not occur:

- a) amendment to the Kern County General Plan (KCGP) to change a portion of the existing Map Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation, for 20 acres of the existing project site for a 100,000 ton per year compost facility);
- b) change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone;
- c) amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with designated buffer and compost areas;
- d) modification of the existing Conditional Use Permit (CUP No. 1, Map 78) to 1) increase permitted facility area to include buffer area; 2) designate 20 acres for a 100,000 ton/year compost facility; 3) establish a finished compost storage time limit of 180 days to accommodate seasonal markets; 4) integrate enhanced self-haul recycling operations into existing waste diversion operations; 5) increase hours for the receipt of waste; 6) increase facility operating hours.

The No Project, Alternative 1, would maintain the current land use classifications and the existing land uses, developed with the existing sanitary landfill, buffer lands, and diversion activities, would continue for an indefinite period. Under the No Project, Alternative 1, there would be no project, no amendments, and the existing project site would continue to operate consistent with existing operations and permits. The proposed 20-acre area intended for the construction of a compost facility is currently permitted, under the existing CUP and solid waste facility permit, for ancillary activities related to landfill operations, such as borrow area; drainage facilities and features; diversion activities; stockpiling, processing, loading, handling, and transporting of diversion materials; emergency staging; construction and closure activities; agricultural development; Habitat Conservation Plan offsets, buffer to prevent incompatible adjacent land uses, and environmental monitoring system installation and maintenance.

Alternative 2: Reduced Size Compost Facility

Alternative 2, Reduced Size Compost Facility, would include a smaller scale composting facility design capacity at the existing project site. The design capacity would be 30,000 tons per year and constructed in a single phase. The alternative would process feedstocks, similar to the proposed project, through various machinery to remove contamination then place feedstocks into a compost pile. All diverted organic materials and compostable feedstocks beyond 30,000 tons received would be processed to remove contaminants and transported off site to regional composting facilities. Similar to the proposed project, this alternative would require an amendment to the KCGP to change a portion of the existing Map Code 3.4.1 (Solid Waste Facility Buffer) designation to a Map Code 3.7 (Other Waste Facilities) designation of the existing project site for a 30,000 ton per year compost facility; change to the designation of an existing portion of the project site from Map Code 8.1 (Intensive Agriculture – Min. 20-Acre Parcel Size) to 3.4.1 (Solid Waste Disposal Facility Buffer) for 50.21 acres of landfill buffer to create an additional buffer zone; an amendment to the KCGP Appendix E Map “Shafter-Wasco RSLF” to show the revised permitted facility with newly designated buffer and compost areas; and modification of the existing CUP to allow for composting operations.

This alternative, similar to the proposed project, would increase hours for the receipt of waste and increase the ancillary and facility operating hours to the existing landfill operation, as well as integration of enhanced self-haul activities into existing diversion operations at the project site and applicable permit amendments and modifications would be completed. This alternative would be subject to permitting through the Kern County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a revised Solid Waste Facility Permit. The CUP modification would include an increase in hours for the receipt of waste and an increase in facility operating hours.

Alternative 3: Utilize Other County-Owned Property

Alternative 3, Utilize Other County-Owned Property, would propose the siting, permitting, construction, and operation of a stand-alone compost facility on other property located within the boundaries of Kern County that is currently owned by the project proponent. The alternative project would likely remain within the San Joaquin Valley region of the County, similar to the proposed project, to meet the organics and solid waste management needs of the northwest region of Kern County. This alternative, depending upon the existing designations and zoning of the selected property, would require an amendment to the Kern County General Plan and may require a zone change case to the Kern County Zoning Ordinance. The land use

designation would be amended to a 3.7 (Other Waste Facilities) designation and would require the issuance of a new Conditional Use Permit to allow for composting operations with associated activities. Similar to the proposed project, this alternative would propose a covered aerated static pile composting operation that would process feedstocks through various machinery to remove contamination then place feedstocks into a compost pile. Finished compost would be used for an amendment to agricultural farmland soil, community beautification projects, and residential property use. This alternative would be subject, similar to the proposed project, to permitting through the Regional Water Quality Control Board – Central Valley for new Waste Discharge Requirements, the Kern County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a new Solid Waste Facility Permit or new Registration Permit, and the San Joaquin Valley Air Pollution Control District for an Authority to Construct and Permit to Operate.

This alternative, similar to the proposed project, would increase hours for the receipt of waste and increase ancillary and facility operating hours to the existing landfill operation, as well as integration of enhanced self-haul activities into existing diversion operations at the project site and applicable permit amendments and modifications would be completed. This alternative would be subject to permitting through the Kern County Public Health Services Department – Environmental Health Division with concurrence by the California Department of Resources Recycling and Recovery for a revised Solid Waste Facility Permit.

6.4 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (CEQA *Guidelines*, Section 15126.6[c]). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (CEQA *Guidelines*, Section 15126[f][2]). Kern County considered several alternatives to reduce impacts to aesthetics, air quality, biological resources, and noise. 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 SEIR because they would not eliminate or substantially reduce any significant and unavoidable project or cumulative impacts. Additionally, alternatives screened from detailed consideration would not meet project objectives and/or were infeasible.

- Increased Size Composting Facility
- Advanced Conversion Technologies

Increased Size Composting Facility

This alternative would involve the development of the proposed project at a larger scale composting facility than proposed and would increase the proposed additions and modifications to the approved CUP boundary. This alternative would increase the facility's tonnage capacity beyond 100,000 tons per year which would allow for a greater volume of organic material to be diverted from landfills, reduce landfill greenhouse gas emissions, and reduce volatile organic compounds (VOC) emissions, more than the proposed project. A larger tonnage capacity would also require additional truck trips and use of mobile and stationary equipment. An increased size compost facility would require the acquisition of additional lands currently

designated as farmland of significance or would require relocation of the composting facility to the southern portion of the proposed permitted facility boundary that is not located or suited for continuity of ongoing and proposed operations. Given the above reasons along with the limited acreage available to the project proponent for project construction and operations, this alternative was determined to be infeasible in relation to meeting the majority of project objectives and with respect to an increase in environmental impacts when compared to the proposed project.

Advanced Conversion Technologies

This alternative would involve the development, installation, and operation of advanced conversion technologies to handle and process organic materials. Types of advanced conversion technologies include food waste dehydrators; food waste liquefiers; aerobic and anerobic digesters; biomass conversion; in-vessel composting; and other new and emerging technologies. This alternative would include the processing of organic materials for incorporation into an emerging technology system that would include the production of finished compost, biogas, alternative fuel, electrical energy, steam, electricity, renewable natural gas, or biofuels, which is wholly dependent upon the technology and system design chosen. Conversion of organic materials to energy through the use of thermochemical, biochemical, or physiochemical processes would create useful forms of energy from organic materials.

Advanced conversion technology projects, such as those identified above, would require notification, permitting, scoping, review, and approvals through potentially numerous local, state, and federal regulatory agencies and jurisdictions. The speculative nature of other new and emerging conversion technologies, including the construction, implementation, and operation of said technologies, would not allow the project proponent to meet the majority of project objectives as desired above. Given the speculative nature and several unknown operational and permitting requirements for such advanced conversion technologies as well as the unknown cost of designed and constructing technology systems, this alternative was eliminated because it is unknown if technologies would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.5 Analysis Format

In accordance with CEQA *Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this SEIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below:

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this SEIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
 - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be “less.”

- Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be “greater.”
 - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be “similar.”
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project’s basic objectives would be substantially attained by the alternative.

Table 6-1, *Comparison of Alternatives*, below, provides a summary and side-by-side comparison of the proposed project’s impacts with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 3 in **Table 6-1**, the references to “less, similar, or greater,” refer to the impact of the alternative compared to the proposed project, and the impacts “no impact, less than significant, less than significant with mitigation, or significant and unavoidable,” refer to the significant impact of the proposed project.

Table 6-1: Comparison of Alternatives

Environmental Resource	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Size Compost Facility	Alternative 3: Utilize Other County Owned Property
Aesthetics	Less than significant with mitigation	Less	Similar	Greater
Agricultural & Forestry Resources	Less than significant with mitigation	Less	Similar	Greater
Air Quality	Less than significant with mitigation	Greater	Greater	Greater
Biological Resources	Less than significant with mitigation	Similar	Similar	Greater
Cultural Resources	Less than significant with mitigation	Similar	Similar	Greater
Energy	Less than significant	Less	Less	Similar
Geology & Soils	Less than significant with mitigation	Less	Less	Similar
Greenhouse Gas Emissions	Less than significant	Greater	Greater	Similar
Hazards & Hazardous Materials	Less than significant with mitigation	Similar	Similar	Greater
Hydrology & Water Quality	Less than significant with mitigation	Less	Less	Greater
Land Use & Planning	Less than significant	Less	Similar	Greater
Mineral Resources	Less than significant with mitigation	Similar	Similar	Greater
Noise	Less than significant	Less	Less	Greater
Transportation	Less than significant	Similar	Similar	Greater
Tribal Cultural Resources	Less than significant with mitigation	Similar	Similar	Greater
Utilities & Service Systems	Less than significant with mitigation	Less	Greater	Similar
Wildfire	Less than significant	Similar	Similar	Similar
Meet Project Objectives?	Yes	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	Significant and Unavoidable for cumulative Air Quality	No	Yes	Yes

6.6 Impact Analysis

Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No physical changes would be made to the project site as no construction activities would occur. Similar to the proposed project, no substantial adverse effect would occur on a scenic vista and no substantially changes to scenic resources would occur. Under the No Project, Alternative 1, no additional temporary or permanent lights are proposed that would adversely affect daytime or nighttime views. Therefore, the No Project, Alternative 1, would result in less aesthetics impacts compared to the proposed project.

Agricultural and Forestry Resources

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer lands as long-term lease agreement for agricultural cultivation. No physical changes would be made to the project site. The No Project, Alternative 1, would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. The No Project, Alternative 1, would not conflict with the existing zoning, nor would it affect the use of nearby sites zoned for agricultural use or sites that are governed by a Williamson Act contract. No CUP modification would be required. No potential impacts to forestland, farmland, or open space contracts would occur. Therefore, the No Project, Alternative 1, would result in less agricultural and forestry resource impacts compared to the proposed project.

Air Quality

Under the No Project Alternative, the project site would maintain its existing land uses, existing landfill operations and diversion activities. Since no physical changes would occur, no impacts to air quality related to construction would occur related to PM_{2.5}, PM₁₀, CO, VOC, NOX, and SOX. The project would not contribute to a net increase of pollutant in the project's region related to construction emissions. Under this Alternative, no composting operations would occur and therefore no ongoing project operational emissions would occur related to NH₃, VOC, CO, NOX, SOX, PM₁₀, and PM_{2.5}. No exceedance of the San Joaquin Valley Air Pollution Control District's (SJVAPCD) thresholds for VOC would occur, nor would the project contribute to a cumulative net increase of criteria pollutant in the projects' region. In addition, expanded landfill operations would not occur, and no additional project emissions would occur related to NOX, CO, VOC/ROG, SOX, PM₁₀, PM_{2.5}, CO₂, and CH₄. This alternative would, however, continue to require the processing and offsite transport of incoming raw organic waste material. Heavy-duty truck transportation of the less dense raw organic waste material to offsite facilities is expected to be less efficient than the transport of finished compost to end users, resulting in additional emissions. Approved offsite composting facilities are to achieve the 80 percent reduction in VOC emissions for organic material, per SJVAPCD Rule 4566. However, the potential reduction or mitigation of air quality impacts would not be under the project proponent's direct control and VOC emissions reductions may not be realized compared to proposed

project. The No Project, Alternative 1, will also likely make the diversion of organic waste less practicable, leading to organic waste being disposed of in the landfill and resulting in an increase of landfill gas emissions in the form of VOCs.

Hence, while this alternative would result in no air quality impacts related to construction or operations, additional emissions related to outbound transportation of raw organic waste material to an off-site facility, and VOC emissions resulting from organic waste being disposed of in the landfill, are reasonably expected to increase. Therefore, the No Project, Alternative 1, would likely result in greater air quality impacts as compared to the proposed project.

Biological Resources

Under the No Project Alternative, the project site would continue to be disturbed as permitted and maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No additional operations would occur beyond what is currently permitted. Therefore, the No Project, Alternative 1, would result in similar biological resource impacts compared to the proposed project.

Cultural Resources

Under the No Project Alternative 1, the project site would continue to be disturbed as permitted and maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. According to record searches and cultural resource surveys, no historical, cultural, archeological, or paleontological resources are present on the project site. As such, the No Project Alternative would not cause a substantial adverse change in the significance of a cultural resource as defined. Therefore, the No Project, Alternative 1, would result in similar cultural resource impacts compared to the proposed project.

Energy

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. Although no construction related to the proposed project would occur, currently permitted ancillary activities and existing energy resources on-site would continue to occur. Therefore, the No Project, Alternative 1, would result in less energy resource impacts compared to the proposed project.

Geology and Soils

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related to the proposed project would occur. Thus, this alternative would not increase risks related to exposure of people or structures to geologic or seismic hazards and would not result in soil erosion or the loss of topsoil. Therefore, the No Project, Alternative 1, would result in less impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related

to the proposed project would occur. Greenhouse gas emissions associated with the construction and operation of the proposed project would not occur under this alternative. Heavy equipment operation and construction and operations worker commute trips would not occur under this alternative. Thus, construction emissions that contribute to greenhouse gases would be eliminated, and no impacts would occur related to generating emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Under this alternative, organic materials not shipped for off-site composting would be landfilled, which would result in significant CH₄ (methane) and landfill gas generation. The potential offset or displacement of GHGs from operation of the composting facility compared with landfilling would not be realized. Therefore, the No Project, Alternative 1, would result in greater impacts related to GHGs compared to the proposed project.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related to the proposed project would occur. No new hazardous materials would be introduced to the project site and no new impacts from hazards or hazardous materials would occur. Therefore, the No Project, Alternative 1, would result in similar hazards or hazardous materials impacts compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related to the proposed project would occur and no composting operations would occur. Any impact to groundwater supplies would be limited to what is currently permitted. Therefore, the No Project Alternative would result in less hydrology and water quality resource impacts compared to the proposed project.

Land Use and Planning

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. The No Project Alternative would not implement proposed land use changes at the project site. Existing land uses would remain unchanged yet would remain consistent with the zoning and general plan land use classifications. As a result, this alternative would not require a GPA amendment, or modification of a CUP for the project's site. Therefore, the No Project, Alternative 1, would result in less land use and planning impacts compared to compared to the proposed project.

Mineral Resources

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related to the proposed project would occur. The project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State. Therefore, the No Project, Alternative 1, would result in similar impacts to mineral resources compared to the proposed project.

Noise

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. Construction related to the proposed project, composting activities, and expanded landfill operations would not occur. No equipment related to the proposed project would operate, and no temporary generation of ground borne vibration or ground borne noise levels would occur. Therefore, the No Project, Alternative 1, would result in less impacts to noise compared to the proposed project.

Transportation and Traffic

Under the No Project, Alternative 1, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. This alternative would not introduce construction (off-road construction equipment and construction worker vehicles) related trips or composting related operational worker vehicle travel trips. This alternative would, however, continue to require the shipment of compostable materials from the project site to an offsite approved composting facility. Consequently, additional heavy-duty truck transportation would result in traffic and transportation impacts. The statements from the *Technical Advisory on Evaluating Transportation Impacts*, in CEQA indicate that heavy truck trips are not subject to VMT analysis, thresholds, or reduction requirements as part of the CEQA review process. This alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Under this alternative, existing traffic patterns would remain unchanged, similar to the proposed project. Therefore, the No Project, Alternative 1, would result in similar impacts to transportation and traffic resources compared to the proposed project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would continue to be disturbed as permitted and maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction activity related to the proposed project would occur. According to record searches and tribal resource consultations, no tribal resources are present on the project site. As such, the No Project, Alternative 1, would not cause a substantial adverse change in a significant tribal cultural resource as defined in Public Resources Code Section 5020.1(k) or as a resource determined by the lead agency. Therefore, the No Project, Alternative 1, would result in similar tribal cultural resource impacts compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the project site would maintain its existing land uses, developed with the existing landfill operations, diversion activities, and solid waste facility buffer. No construction related to the proposed project or composting operations would occur. There would be no new demand related to the proposed project for utilities and service systems (water, wastewater treatment, storm water drainage, electric power, or natural gas) that do not currently exist at the site. Therefore, the No Project, Alternative 1, would result in less impacts to utilities and service systems than the proposed project.

Wildfire

Under the No Project, Alternative 1, the project site would continue to be disturbed as permitted and maintain its existing land uses, developed with the existing landfill operations, diversion activities, and

solid waste facility buffer. No new construction related to the proposed project would occur. According to the FHSZ Maps for the LRA in Kern County, the project site is outside of areas identified by CAL FIRE as having substantial or very high risk. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. As such, the No Project, Alternative 1, would not expose occupants to pollutant concentrations from a wildfire or interfere with an emergency response plan. Therefore, the No Project Alternative would result in similar wildfire impacts compared to the proposed project.

Comparison of Impacts

The No Project, Alternative 1, would result in less impacts to aesthetics, agricultural and forestry resources, energy, geology and soils, hydrology and water quality, land use and planning, noise, and utilities and service systems. This alternative would result in similar impacts to biological resources, cultural resources, hazards and hazardous materials, mineral resources, transportation and traffic, tribal cultural resources, and wildfire. This alternative would result in greater impacts to air quality and GHG emissions.

Relationship to Project Objectives

The No Project, Alternative 1, would not achieve any of the project objectives listed above in Section 6.2, *Project Objectives*, above, such as allowing for the installation and use of a covered aeration static pile composting operation, system, modifying the current CUP boundary to include existing ancillary features, or increasing the facility boundary to provide additional landfill buffer. Although this alternative would create less environmental impact overall, the goals and objectives that shape the project would not be realized under this alternative.

Alternative 2: Reduced Size Compost Facility

Environmental Impact Analysis

Aesthetics

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. The Reduced Size Compost Facility, Alternative 2, maintains similar facility modifications outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not have a substantial adverse effect on a scenic vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of public views of the site and its surroundings.

As discussed in Chapter 4.1, *Aesthetics*, of this SEIR, Alternative 2 would be required to implement Mitigation Measure (MM) 4.1-1 during construction activities and project operations so as to not create a new source of substantial glare that would adversely affect day or nighttime views in the area. Even though the size of the compost facility would be reduced, the site would result in similar impacts from site illumination. With implementation of MM 4.1-1, this alternative's aesthetics impacts would be reduced to

less than significant. These impacts would be similar than the less than significant impacts identified for the proposed project.

Agriculture and Forestry Resources

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project from 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not conflict with existing zoning for agricultural use or a Williamson Act Contract, as properties located within the project area are not under Williamson Act Contract and are excluded from Agricultural Preserve No. 8. In addition, this alternative would not result in the loss of forestland or conversion of forestland to non-forest use.

As discussed in Chapter 4.2, *Agricultural and Forestry Resources*, of this SEIR, the project site would designate 50.21 acres of intensive agriculture (8.1) to solid waste facility buffer (3.4.1) while the zoning would remain as exclusive agriculture. Buffer lands would be in short- and long-term agricultural lease and cultivation. Additional ancillary uses to the landfill would be permitted. Similar to the proposed project and under this alternative, should the project proponent determine lands identified as Farmland of Statewide Importance are required for development of waste and diversion activities or other actions that result in the permanent loss of farmland, implementation of Mitigation Measure MM 4.2-1 would occur. With implementation of MM 4.2-1, this alternative's agricultural and forestry resource impacts would be reduced to less than significant. These impacts would be similar than the less than significant impacts identified for the proposed project.

Air Quality

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. The Reduced Size Compost Facility, Alternative 2, maintains similar facility modifications outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, construction and operations activities would be similar as those described for the proposed project.

Compared to the proposed project, construction emissions under this alternative would be reduced because a portion of the project would not be developed. The use of construction off-road vehicles, heavy equipment operation, and worker commuter trips would be reduced compared to the proposed project. As such, this alternative would create fewer construction-related emissions (PM_{2.5}, PM₁₀, CO, VOC, NOX, and SOX) resulting in incrementally fewer air quality impacts than those of the proposed project.

Compared to the proposed project, composting- and project-related emissions (NH₃, VOC, CO, NOX, SOX, PM₁₀, and PM_{2.5}) under this alternative would be reduced because a portion of the project would not be developed. The use of off-road equipment and worker commuter trips would be reduced compared to the

proposed project. The generation of VOC emissions would be reduced since less organic materials would be composted. As such, this alternative would create fewer project-related emissions resulting in incrementally fewer air quality impacts than those of the proposed project. Nevertheless, an exceedance of the SJVAPCD's thresholds for VOCs would occur under this alternative which would require the implementation of Mitigation Measure MM 4.3-1 through MM 4.3-6 to reduce impacts to less than significant.

This alternative would, however, continue to require the processing and offsite transport of incoming raw organic waste material beyond the alternatively proposed 30,000 tons per year. Heavy-duty truck transportation of the less dense raw organic waste material to offsite facilities is expected to be less efficient than the transport of finished compost to end users, resulting in additional emissions. Approved offsite composting facilities are to achieve the 80 percent reduction in VOC emissions for organic material, per SJVAPCD Rule 4566. However, the potential reduction or mitigation of air quality impacts would not be under the project proponent's direct control and VOC reductions may not be fully realized compared to the proposed project. The Reduced Size Composting Facility will also likely reduce the diversion of organic waste leading to organic waste being disposed of in the landfill and resulting in an increase of landfill gas methane and surface emissions.

As described, under this alternative, the footprint and tonnage capacity would be decreased below the proposed project; however, it would result in additional heavy-duty truck trips, additional landfill gas emissions, and uncontrolled VOC. As discussed in Chapter 4.3, *Air Quality*, of this SEIR, this alternative would be required to implement MM 4.3-1 through MM 4.3-6. With implementation of these measures, the Reduced Size Compost Facility Alternative's air quality impacts would be reduced to less than significant. Nevertheless, these impacts would be greater than compared to the proposed project.

Biological Resources

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community, would not have a substantial adverse effect on state or federally protected wetlands, would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, and would not conflict with any local policies or ordinances protecting biological resources.

As discussed in Chapter 4.5, *Biological Resources*, of this SEIR, Alternative 2 would be required to implement Mitigation Measures MM 4.5-1 through MM 4.5-4 during construction and project activities since excavation activities associated with this alternative has the potential to result in significant impacts to biological resources. With implementation of these measures, this alternative's biological resources impacts would be reduced to less than significant so as to not create an adverse substantial adverse effect on any species identified as a sensitive or special-status species in local or regional plans, policies, or regulations and would not conflict with the provisions of an adopted Habitat Conservation Plan. Even

though the size and capacity of the compost facility would be reduced, the alternative would result in similar impacts compared to the proposed project.

Cultural Resources

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA.

As discussed in Chapter 4.6, *Cultural Resources*, of this SEIR, Alternative 2 would be required to implement Mitigation Measures MM 4.6-2 and MM 4.6-3 during construction and project activities since excavation activities associated with this alternative has the potential to result in significant impacts to cultural resources. With implementation of these measures, this alternative's cultural resources impacts would be reduced to less than significant so as to not cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA or disturb any human remains. Even though the size and capacity of the compost facility would be reduced, the alternative would result in similar impacts compared to the proposed project.

Energy

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, construction and operation of a reduced size composting facility is expected to require the use of non-renewable resources in the form of diesel and gasoline to power off-road construction equipment and on-road vehicles as well as electricity to power the well water pump during construction and operations. However, with a smaller construction project under this alternative, use of non-renewable resources would be less when compared to the proposed project. Operations associated with increased landfill operations (hours for the receipt of refuse/waste) would require the same volume of diesel and gasoline to power off-road heavy equipment.

As discussed in Chapter 4.16, *Energy*, of this SEIR, Alternative 2 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This alternative would be required to implement Mitigation Measure MM 4.3-1 during project construction and operations since activities associated with this alternative has the potential to result in significant impacts to energy resources. With implementation of this measure, this alternative's energy impacts would be reduced to less than significant relative to a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of

energy resources. The Reduced Size Compost Facility Alternative would result in less energy impacts compared to the proposed project.

Geology and Soils

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not result in substantial soil erosion or the loss of topsoil, would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems, or would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As discussed in Chapter 4.7, *Geology and Soils*, of this SEIR, construction of the project activities associated with this alternative has the potential to result in significant impacts to geology and soils resources. However, since this alternative would require less ground disturbing and construction activities, less impacts overall would be expected. Alternative 2 would be required to implement Mitigation Measures MM 4.7-1 and MM 4.7-2 during construction of the project activities associated with this alternative as well as implementation of the required Stormwater Pollution Prevention Plan and associated Best Management Practices. This alternative would be required to conform to the Kern County Building Code. With implementation of these measures, this alternative's geology and soils impacts would be reduced to less than significant related to potential substantial adverse effects involving strong seismic ground shaking or seismic-related ground failure. Due to the reduced size and capacity of the composting facility, this alternative would result in less geology and soil impacts compared to the proposed project.

Greenhouse Gas Emissions

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, construction and project activities would be similar as those described for the proposed project.

Greenhouse gas emissions associated with the construction and operation of the proposed project would occur under this alternative. Due to less construction and project operations, emissions related to this alternative would be reduced to those identified for the proposed project. However, this alternative would result in lower volumes of organic materials being composted and would result in more organic materials being sent for disposal in regional landfills. Consequently, this would likely result in an increase of greenhouse gas emissions in the form of methane (CH₄) resulting from the generation of landfill gas compared to the proposed project. The potential offset or displacement of GHGs from operation of the composting facility compared with landfilling would not be realized. In addition, this alternative would

require the transport of diverted organic waste in excess of this alternative project's capacity of 30,000 tons per year to other regional composting operations, resulting in an increase in GHGs.

As discussed in Chapter 4.4, *Greenhouse Gas Emissions*, of this SEIR, no impacts would occur related to generating GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and no conflict would occur with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Nevertheless, based on the project analysis of GHG impacts and GHG reduction benefits of composting in relation to landfilling organic wastes, similar to the proposed project, the project would not significantly increase GHG emissions. However, the landfilling of organic materials significantly increases the generation of landfill gas in the form of methane which would have a significant impact and contribution to global climate change and global warming potential. Therefore, the Reduced Size Compost Facility Alternative would result in greater impacts related to GHGs compared to the proposed project.

Hazards and Hazardous Materials

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Similar to the proposed project, this alternative would not emit hazardous emissions or handle hazardous waste within ¼ mile of an existing or proposed school, is not located on a site which is included on a list of hazardous materials sites, would not expose people or structures to a significant risk involving wildland fires, and is not located within a private or public Airport Land Use Plan area.

As discussed in Chapter 4.8, *Hazards and Hazardous Materials*, of this SEIR, the relatively limited use of hazardous materials during construction would be controlled through compliance with applicable regulations. During operation, there would not be any substantive changes in relation to the hazardous materials already in use at the site and would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, similar to the proposed project, Alternative 2 would be required to implement Mitigation Measures MM 4.8-1, MM 4.8-2, and MM 4.8-3 during project construction and operations since activities associated with this alternative has the potential to result in significant impacts to hazards and hazardous materials. Along with implementation of these mitigation measures, compliance with applicable regulations, and the updating of required regulatory documents with local and state agencies, impacts due to hazards and hazardous materials under Alternative 2 would be less than significant, similar to the proposed project. Even though the size and capacity of the compost facility would be reduced, this alternative would result in similar impacts compared to the proposed project.

Hydrology and Water Quality

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the

project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level and is not in a designated tsunami inundation zone.

Similar to the proposed project and as discussed in Chapter 4.9, *Hydrology and Water Quality*, of this SEIR, construction and operation of a reduced size composting facility as well as expanding landfill operations would be expected to result in impacts to groundwater levels, water quality, and existing drainage patterns. However, since this alternative would require less ground disturbing and construction activities, and hence less need for water and change to drainage patterns, impacts overall would be expected to be less compared to the proposed project. Since this alternative would maintain many of the similar facility modifications, this alternative would be required to implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.9-3, as well as adherence to the required Stormwater Pollution Prevention Plan and associated Best Management Practices. With implementation of these mitigation measures and regulatory standards, impacts for this alternative would be less than significant and similar to the proposed project. The Reduced Size Compost Facility, Alternative 2, would result in less hydrology and water quality impacts compared to the proposed project.

Land Use and Planning

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year.

The Reduced Size Compost Facility would require the same amendments to the Kern County General Plan, Appendix E Map, and modification of the existing CUP No. 1, Map 78 to include changes to current operations, site boundaries, and hours of operations. As discussed in Chapter 4.10, *Land Use and Planning*, of this SEIR, with the 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 project site and impacts would be less than significant. This alternative, even though the size and capacity of the compost facility would be reduced, would result in similar land use and planning impacts compared to the proposed project as the same amendments apply to this alternative.

Mineral Resources

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project.

Similar to the proposed project, the alternative is not located on land designated for mineral resources by the Kern County General Plan. This alternative would not result in the loss of availability of a known mineral resource and would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan with the implementation of MM 4.11-1 and 4.11-2. This alternative would result in similar impacts compared to the proposed project.

Noise

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, construction and operational activities would be similar as those described for the proposed project. Similar to the proposed project, temporary construction-related noise from heavy equipment operation, truck deliveries, and worker commute trips associated with project construction would occur and affect nearby sensitive receptors. However, overall these impacts would be less than significant. Related to composting and expanded landfill operations, noise generated would result from existing heavy equipment operation, worker commute trips, and ancillary equipment. Given the same project development, the Reduced Size Compost Facility would result in similar construction and operational noise impacts as the proposed project.

Transportation and Traffic

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, construction and operational activities would be similar as those described for the proposed project. Similar to the proposed project, this alternative would not increase hazards due to a design feature or result in inadequate emergency access.

As discussed in Chapter 4.14, *Transportation and Traffic*, of this SEIR, the project would introduce construction related trips (off-road construction equipment and construction worker vehicles) and operations related operational worker vehicle travel trips. This alternative would reduce both construction and operational vehicle trips. This alternative, however, would continue to require the shipment of compostable materials from the project site to an offsite approved composting facility beyond the alternative 30,000 tons per year. Consequently, additional heavy-duty truck transportation would result in traffic and transportation impacts, offsetting any decrease in traffic and transportation impacts due to fewer transport needs for finished compost. The statements from the *Technical Advisory on Evaluating Transportation Impacts* in CEQA indicate that heavy truck trips are not subject to VMT analysis, thresholds, or reduction requirements as part of the CEQA review process. This alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Therefore, the Reduced Size Compost Facility would result in similar impacts to transportation and traffic resources compared to the proposed project.

Tribal Cultural Resources

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project. According to record searches and tribal resource consultations, no tribal resources are present on the project site. As such, the Reduced Size Compost Facility, Alternative 2, would not cause a substantial adverse change in a significant tribal cultural resource as defined in Public Resources Code Section 5020.1(k) or as a resource determined by the lead agency. Therefore, this alternative would result in similar tribal cultural resource impacts compared to the proposed project. Similar to the proposed project, this alternative would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA. The alternative would result in similar impacts compared to the proposed project.

Utilities and Service Systems

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, construction and operational activities of a reduced size composting facility would be similar as those described for the proposed project and would require the need for utilities.

As discussed in Chapter 4.13, *Utilities and Service Systems*, of this SEIR, impacts related to water, wastewater, solid waste, and stormwater drainage would be less than significant under the proposed project. This alternative would require the implementation of Mitigation Measure MM 4.16-1, as discussed. Due to the smaller construction and operations area under this alternative, there would be less demand related to acre-feet of water and electricity usage for construction and operations. For impacts related to utilities (water, wastewater, storm water, and electric power), this alternative would result in less impacts compared to the proposed project.

However, this alternative would increase the volume of organic materials and recyclable materials being sent to the landfill compared to the proposed project since composting capacity would be reduced. As discussed in Chapter 4.13, *Utilities and Service Systems*, of this SEIR, organic materials are targeted to reduce overall methane emissions and meet State-mandated emission reduction targets. With implementation of this alternative, additional mitigation would be required to reduce the impact to State and local management and reduction statutes and regulations related to solid waste to a less than significant impact. For impacts related to solid waste, this alternative would result in greater impacts compared to the proposed project.

Wildfire

Under Alternative 2, Reduced Size Compost Facility, the project site would still request land use entitlements necessary to facilitate the construction and operation of a compost facility, an increase to the permitted facility boundary of the landfill, and an increase to the hours for the receipt of refuse/waste and facility operating hours. This alternative maintains similar facility modifications and buffer land increases outlined in Chapter 3, *Project Description*, of this SEIR, but would decrease the composting capacity at the project site to 30,000 tons per year compared to the proposed project of 100,000 tons per year. Hence, ground disturbing activities would be similar as those described for the proposed project.

As discussed in Chapter 4.17, *Wildfire*, of this SEIR, the project site and this alternative is outside of areas identified by CAL FIRE as having substantial or very high risk, according to the FHSZ Maps for the LRA in Kern County. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. This alternative would not expose occupants to pollutant concentrations from a wildfire or interfere with an emergency response plan. Therefore, the Reduced Size Compost Facility would result in similar wildfire impacts compared to the proposed project.

Comparison of Impacts

The Reduced Size Compost Facility, Alternative 2, would result in similar impacts to aesthetics, agricultural and forestry resources, biological resources, cultural resources, hazards and hazardous materials, land use and planning, mineral resources, transportation and traffic, tribal cultural resources, and wildfire. This alternative would result in greater impacts to air quality, greenhouse gas emissions, and utilities and service systems. However, this alternative would result in less impacts to energy, geology and soils, hydrology and water quality, and noise.

Relationship to Project Objectives

Although the Reduced Size Compost Facility, Alternative 2, would meet some of the project objectives, this alternative would not achieve many of the project objectives listed above in Section 6.2, *Project Objectives*, such as assisting state and local governments in complying with California's mandate of reducing greenhouse gas emissions by diverting organic waste from being disposed of in landfills and facilitating CalRecycle's statewide diversion goal of 75 percent recycling, composting, or source reduction of organic materials by 2025 established under SB 1383.

Alternative 3: Utilize Other County-Owned Property

Environmental Impact Analysis

Aesthetics

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to

existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Similar to the proposed project and as discussed in Chapter 4.1, *Aesthetics*, of this SEIR, this Alternative 3 would be required to implement Mitigation Measure MM 4.1-1 during construction activities and project operations so as to not create a new source of substantial glare that would adversely affect day or nighttime views in an area. The alternative would result in similar impacts from site illumination. However, visual impacts may still be significant, as development would replace undeveloped land within generally dominated agricultural activities. Based on its potential non-urban location, this alternative has the potential to degrade the existing visual character and its surroundings. The proposed alternative location would likely be highly visible to a greater number of viewers than the proposed project, which is hidden from view of the travelling public by the existing landfill, diversion activities, and tree line. Therefore, these impacts would be greater than the less than significant impacts identified for the proposed project.

Expanded Landfill Operations – Similar to the proposed project, this alternative would not have a substantial adverse effect on a scenic vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of public views of the site and its surroundings. As discussed in Chapter 4.1, *Aesthetics*, of this SEIR, Alternative 3 would be required to implement Mitigation Measure MM 4.1-1 during landfill operations so as to not create a new source of substantial glare that would adversely affect day or nighttime views in the area. With implementation of MM 4.1-1, this alternative's aesthetics impacts would be reduced to less than significant. These impacts would be similar to impacts identified for the proposed project.

Agriculture and Forestry Resources

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Development of an alternative site would potentially result in an increased impact associated with farmland conversion, land use conflicts, and Williamson Act contracts conflicts. Lands surrounding the proposed project and within the San Joaquin Valley are under Williamson Act contracts and are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The alternative could result in the cancellation of an open space contract. This alternative would require agricultural lands to be designated as other waste facilities, potentially resulting in a land use conflict. Potential impacts to agricultural resources associated with Alternative 3 have the potential to be greater when compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.2, *Agricultural and Forestry Resources*, in this (SEIR), the existing project site would designate 50.21 acres of intensive agriculture (8.1) to solid waste facility buffer (3.4.1). Buffer lands would be in short- and long-term agricultural lease and cultivation. Ancillary uses to the landfill would be permitted. Similar to the proposed project and under this alternative, should the project proponent determine lands identified as Farmland of Statewide Importance are required

for development of waste and diversion activities or other actions that result in the permanent loss of farmland, implementation of Mitigation Measure MM 4.2-1 would occur. With implementation of MM 4.2-1, this alternative's agricultural resource impacts would be reduced to less than significant. These impacts would be similar than the less than significant impacts identified for the proposed project.

Air Quality

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and operations activities of the alternatively located compost facility would be similar as those described for the proposed project. Compared to the proposed project, construction emissions under this alternative would be similar because the use of construction off-road vehicles, heavy equipment operation, and worker commuter trips would be the same as described in Chapter 4.3, *Air Quality*, of this SEIR. As such, this alternative would create construction-related emissions (PM_{2.5}, PM₁₀, CO, VOC, NOX, and SOX) resulting in incrementally greater air quality impacts similar to those of the proposed project. Composting-related emissions (NH₃, VOC, CO, NOX, SOX, PM₁₀, and PM_{2.5}) would be similar as project improvements would be consistent with the proposed project. The use of off-road equipment and worker commuter trips would be applicable. The generation of VOC emissions would be similar since the same volume of organic materials would be composted. As such, this alternative would create project-related emissions resulting in incrementally greater air quality impacts similar to those of the proposed project. Nevertheless, an exceedance of the SJVAPCD's VOC threshold would occur under this alternative which would require the implementation on Mitigation Measure MM 4.3-1 through MM 4.3-6 to reduce impacts to less than significant. As haulers, commercial entities, and residents of Kern County are conditioned to deliver material to the existing facility, it is highly anticipated that this alternative would continue to require the transport of compostable materials from the existing facility to the alternately located composting facility, resulting in increased emissions and air quality impacts. Heavy-duty truck transportation of the less dense raw organic waste material to the alternately located compost facility is expected to be less efficient than the transport of finished compost to end users, resulting in additional emissions. As such, additional outbound trips related to light-duty and heavy-duty vehicles would be expected, further increasing air quality impacts. Therefore, air quality impacts would be greater than the less than significant impacts with mitigation, as identified for the proposed project.

Expanded Landfill Operations – Emissions related to off-road heavy equipment for expanded landfill operations would be similar to those compared to the proposed project. Operations would result in the same emissions related to NOX, CO, VOC/ROG, SOX, PM₁₀, PM_{2.5}, CO₂, and CH₄. However, because site visitors are conditioned to deliver material to the existing project site, it is highly anticipated that this alternative would continue to require the transport of compostable materials from the existing facility to the alternately located composting facility, resulting in increased emissions and air quality impacts. Heavy-duty truck transportation of the less dense raw organic waste material to the alternately located compost facility is expected to be less efficient than the transport of finished compost to end users, resulting in additional emissions. As such, additional outbound trips related to light-duty and heavy-duty vehicles would

be expected, further increasing air quality impacts. This alternative would require the implementation on MM 4.3-1 through MM 4.3-6 to reduce impacts to less than significant and would not conflict with or obstruct implementation of the applicable air quality plan or violate an applicable air quality standard adopted or established by EPA or air district. Even so, the alternative would likely result in greater impacts compared to the proposed project.

Biological Resources

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and ground disturbing activities would be similar as those described for the proposed project. However, construction of this alternative would result in new ground disturbance, as compared to constructing on previously disturbed lands as identified for the proposed project. Dependent upon its location and biological presence of species and habitat, this alternative has the potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community, on state or federally protected wetlands, interfere substantially with the movement of any native resident or migratory fish or wildlife species, and conflict with local policies or ordinances protecting biological resources. Detailed biological resource surveys and field reconnaissance would be required. It would be expected that the alternative site would have greater impacts associated with biological resources than those associated with the proposed project site. Potential impacts to biological resources associated with Alternative 3 have the potential to be greater when compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.5, *Biological Resources*, of this SEIR, Alternative 3 would be required to implement Mitigation Measures MM 4.5-1 through MM 4.5-4 during project implementation since activities associated with this alternative has the potential to result in significant impacts to biological resources. With implementation of these measures, this alternative's biological resources impacts would be reduced to less than significant so as to not create an adverse substantial adverse effect on any species identified as a sensitive or special-status species in local or regional plans, policies, or regulations and would not conflict with the provisions of an adopted Habitat Conservation Plan. The alternative would result in similar impacts compared to the proposed project.

Cultural Resources

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and ground disturbing activities would be similar as those described for the proposed project. However, construction of this alternative would result in new ground disturbance, as compared to constructing on previously disturbed lands as identified for the proposed project. Potential impacts to cultural resources associated with this alternative could be greater than those associated with the proposed project depending on site-specific conditions and historical records searches. A detailed archaeological and paleontological resource survey and field reconnaissance would be conducted. As discussed in Chapter 4.6, *Cultural Resources*, of this SEIR, Alternative 3 would be required to implement Mitigation Measures MM 4.6-2 and MM 4.6-3 during any construction activities associated with this alternative to reduce the potential impacts to cultural resources. With implementation of these measures, this alternative's cultural resources impacts would be reduced to less than significant so as to not cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA. Nevertheless, it would be expected that the alternative site would have greater impacts associated with cultural resources than those associated with the proposed project site.

Expanded Landfill Operations – Similar to the proposed project, this alternative would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA. As discussed in Chapter 4.6, *Cultural Resources*, of this SEIR, Alternative 3 would be required to implement Mitigation Measures MM 4.6-2 and MM 4.6-3 during any landfill operations since activities associated with this alternative have the potential to result in significant impacts to cultural resources. With implementation of these measures, this alternative's cultural resources impacts would be reduced to less than significant so as to not cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA or disturb any human remains. This alternative would result in similar impacts compared to the proposed project.

Energy

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility & Expanded Landfill Operations – Similar to the proposed project, construction and operation of a composting facility and operations associated with increased landfill operations is expected to require the use of non-renewable resources in the form of diesel and gasoline to power off-road construction equipment and on-road vehicles as well as electricity to power the well water pump during construction and operations. It is anticipated that construction and operations would require the same volume of diesel and gasoline to power off-road heavy equipment and similar demand for electricity usage. However, this alternative would not allow for the cross-utilization of existing landfill and diversion equipment, requiring the purchase of additional equipment to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent. As discussed in Chapter 4.16, *Energy*, of this SEIR, this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This alternative would be required to implement Mitigation Measure MM 4.3-1 during construction and operations since activities associated with this alternative has the potential to result in significant impacts to energy resources. With implementation of this measure, this alternative's

energy impacts would be reduced to less than significant relative to a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. This alternative would result in similar energy impacts compared to the proposed project.

Geology and Soils

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and ground disturbing activities would be similar as those described for the proposed project. However, construction of this alternative would result in new ground disturbance, as compared to constructing on previously disturbed lands as identified for the proposed project. Potential impacts related to geology and soils associated with erosion, slope stability, and seismic hazards would likely be similar to those associated with the proposed project since the geologic setting surrounding the project site is generally similar to the proposed project site and the nature of construction and operations would be the same. However, additional geotechnical studies would be required to determine the type of soils and geologic units present. As discussed in Chapter 4.7, *Geology and Soils*, of this SEIR, construction of the project activities associated with this alternative has the potential to result in significant impacts to geology and soils resources. Alternative 3 would be required to implement Mitigation Measures MM 4.7-1 and MM 4.7-2 during construction of the project activities associated with this alternative as well as implementation of the required Stormwater Pollution Prevention Plan and associated Best Management Practices and conformance to the Kern County Building Code. With implementation of these measures, this alternative's geology and soils impacts would be reduced to less than significant related to potential substantial adverse effects involving strong seismic ground shaking or seismic-related ground failure. This alternative would result in similar geology and soil impacts compared to the proposed project.

Expanded Landfill Operations – Similar to the proposed project, expanded landfill operations associated with this alternative would not directly or indirectly cause adverse effects related to ground failure or landslides, would not result in substantial soil erosion or the loss of topsoil, would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems, would not be located on expansive soil, or would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. However, expanded landfill operation would result in the use of on-site excavated soils from designated borrow areas for daily cover requirements. This alternative would result in similar geology and soil impacts compared to the proposed project.

Greenhouse Gas Emissions

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to

existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Greenhouse gas emissions associated with the construction and operation of the proposed project would occur under this alternative. Due to similar construction and project operations, emissions related to this alternative would be the same to those identified for the proposed project as described in Chapter 4.4, *Greenhouse Gas Emissions*, of this SEIR. Emissions would result in such GHGs such as water vapor (H₂O), CO₂, CH₄, N₂O), and HFCs. Under this alternative, organic materials composted would not result in significant CH₄ (methane) and landfill gas generation as organics would be diverted from disposal. The potential displacement of GHGs from operation of the composting facility compared with the proposed project would be similar. This alternative would result in lower volumes of organic materials being landfilled and would result in more organic materials being sent for composting. Even if additional transportation related emissions occur under this alternative, as anticipated and described in the Air Quality section above, it is expected that the project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, this alternative would result in similar GHG emissions compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.4, *Greenhouse Gas Emissions*, of this SEIR, no impacts would occur related to generating GHG emissions, either directly or indirectly, that would have a significant impact on the environment, and no conflict would occur with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Heavy equipment operation would still occur under this alternative. Based on the project analysis of GHG impacts and GHG reduction benefits of composting in relation to landfilling organic wastes, the project would not significantly increase GHG emissions. Therefore, this alternative would result in similar GHG emissions impacts compared to the proposed project.

Hazards and Hazardous Materials

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – As discussed in Chapter 4.8, *Hazards and Hazardous Materials*, of this SEIR, the hazardous materials required for construction and operations would consist primarily of fuels, lubricants, oils, detergents, solvents, degreasers, and paints. This alternative, similar to the proposed project, requires relatively little in the proposed use, disposal, and transportation of hazardous materials or wastes. Vectors would be controlled through vector control measures, site-specific operations, and approval of operating documents. It is not anticipated that this alternative project implementation would result in or physically interfere with an adopted emergency response plan or emergency evacuation plan. However, existing hazards and hazardous materials associated with another location could be greater due to varying site conditions and the potential for presence of unknown hazardous materials sites in the proposed project vicinity. Dependent upon its location in relationship to schools or a public or private airport, this alternative

could have the significant potential impacts. Therefore, hazards and hazardous materials have the potential to be greater at the alternative site compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.8, *Hazards and Hazardous Materials*, of this SEIR, the relatively limited use of hazardous materials during operations would be controlled through compliance with applicable regulations. During operation, there would not be any substantive changes in relation to the hazardous materials already in use at the site and would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This alternative would result in similar impacts compared to the proposed project.

Hydrology and Water Quality

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – As discussed in Chapter 4.9, *Hydrology and Water Quality*, of this SEIR, construction and operation of a composting facility would be expected to result in impacts to groundwater levels, water quality, and existing drainage patterns. Construction activities would be similar as those described for the proposed project. Potential impacts related to hydrology and water quality associated with this alternative could be greater compared to the proposed project if any surface water resources are present within the alternative site or immediately adjacent to the alternative site. The alternative could substantially alter existing drainage pattern within the alternative site. In addition, it could obstruct implementation of a sustainable groundwater management plan as the alternative owned property would not have existing well sharing agreements in place with the regional water storage district compared to the proposed project. A water quality and drainage analysis would need to be completed. Since this alternative would maintain many of the similar facility upgrades, it would be required to implement Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.9-3, as well as adherence to the required Stormwater Pollution Prevention Plan and associated Best Management Practices. With implementation of these mitigation measures and regulatory standards, impacts for this alternative would be less than significant. Nevertheless, it is conservatively assumed that impacts related to hydrology and water quality could be greater at the alternative site compared to the proposed project site.

Expanded Landfill Operations – As discussed in Chapter 4.9, *Hydrology and Water Quality*, of this SEIR, the proposed expansion of landfill hours of operations and ancillary activities would not require or result in changes to surface or stormwater and would not result in impacts to water quality. Landfilling activities are currently regulated and monitored under the existing Waste Discharge Requirement (WDR)s for the project site. Groundwater monitoring and landfill gas monitoring shall continue to be implemented at the project site, along with operation and maintenance of the landfill gas flare. The proposed operations do not violate any section of the current WDRs, nor do the operations violate any water quality standard. Since groundwater usage for expanded operations under this alternative would be consistent with existing water supply agreements, it would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. This alternative would result in similar hydrology and water quality impacts compared to the proposed project.

Land Use and Planning

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Potential impacts related to land use and planning associated with this alternative could be greater when compared to the proposed project. This alternative would require amendments to the Kern County General Plan, a zone change case of the Kern County Zoning Ordinance, and issuance of a new CUP to allow for composting operations. Depending on the existing land use designations associated with the alternative site, implementation of this alternative could result in significant land use conflicts. Land uses surrounding an alternate site may not be compatible with composting operations. Additionally, development of the proposed project at the alternative site could result in the conversion of agricultural land use and non-renewal/cancellation of the Williamson Act contracts. Therefore, impacts related to land use and planning resources would result greater impacts compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.9, *Hydrology and Water Quality*, of this SEIR, the proposed expansion of landfill buffer would be consistent with all applicable land use policies and regulations. No conflicts with an application land use plan would exist. Proposed landfill buffer activities are consistent with the existing operations and CUP on file with the Lead Agency. With the approval of the amendment to the General Plan and modifications to the CUP to allow for composting operation and increases to the permitted facility boundary, hours of operations, and ancillary activities, the alternative project would be less than significant. This alternative would result in similar land use and planning impacts compared to the proposed project.

Mineral Resources

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – While the proposed project is not located on land designated for mineral resources by the Kern County General Plan, regional lands within Kern County and the San Joaquin Valley are known to have substantial mineral resources that would be of value to the region and residents of Kern County and the State of California. Therefore, it is possible that, depending on the alternative location, the proposed project could result in greater impacts related to mineral resources.

Expanded Landfill Operations – Similar to the proposed project, the alternative is not located on land designated for mineral resources by the Kern County General Plan. This alternative would not result in the loss of availability of a known mineral resource and would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan with the implementation of

Mitigation Measures MM 4.11-1 and MM 4.11-2, as noted in Chapter 4.11 *Mineral Resources*, of this SEIR. This alternative would result in similar impacts compared to the proposed project.

Noise

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and operational activities would be similar as those described for the proposed project. Similar to the proposed project, temporary construction-related noise from heavy equipment operation, truck deliveries, and worker commute trips associated with project construction would occur and affect nearby sensitive receptors. Potential impacts related to noise associated with this alternative could be greater than those associated with the proposed project as the alternate site would be located away from an existing landfill with equipment, worker commuter vehicles, and processing equipment as a baseline. Receptors (in the form of residences and surrounding commercial operations) would vary depending upon the location of the alternate land chosen, and noise analysis studies would be required. Therefore, it is possible that, depending on the alternative location, the proposed project could result in greater impacts related to noise when compared to the proposed project.

Expanded Landfill Operations – Similar to the proposed project, expanded landfill operations would generate noise from heavy equipment operation, worker commute trips, and ancillary equipment. However, existing heavy-duty and light-duty equipment would be used, and there would be no substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Given the same project development, this alternative would result in similar operational noise impacts as the proposed project.

Transportation and Traffic

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Potential impacts related to transportation and traffic circulation associated with this alternative have the potential to be greater than those described for the proposed project. The nature of construction and operations of a composting facility would be the same, resulting in similar vehicle trips to and from the proposed project site, as discussed in Chapter 4.14, *Transportation and Traffic*, of this SEIR. Similar to the proposed project, this alternative would be designed to not increase hazards due to a design feature or result inadequate emergency access. However, it is possible that constructing the proposed project at an alternate site may result in more severe impacts to the local roadway network or may require the new

construction or improvement of driveways, roads, or associated facilities that would not be required at the proposed project site. Impacts to specific intersections, roadways, and distribution routes would need to be verified through a traffic study. It is anticipated that organic materials would still be received at the proposed project site, as haulers are conditioned to deliver material to the existing project site. Therefore, this alternative would receive compostable materials from the proposed project site to the alternately located composting facility. Consequently, additional heavy-duty truck transportation would result in traffic and transportation impacts. Hence, the alternative that the potential to result in greater impacts to transportation and traffic resources compared to the proposed project.

Expanded Landfill Operations – This alternative would not introduce construction related trips or composting related operational worker vehicle travel trips. This alternative would, however, continue to require the shipment of compostable materials from the project site to the alternately located composting facility as haulers, commercial entities, and residents of Kern County are conditioned to deliver material to the existing project site. Similar to existing operations, additional outbound heavy-duty truck transportation would result. Expanded landfill operations would not result in an increase in impacts to transportation and traffic or result in inadequate emergency access. As discussed in Chapter 4.14, *Transportation and Traffic*, of this SEIR, this alternative would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Therefore, the alternative would result in similar impacts to transportation and traffic resources compared to the proposed project.

Tribal Cultural Resources

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and ground disturbing activities would be similar as those described for the proposed project. However, construction of this alternative would result in new ground disturbance, as compared to constructing on previously disturbed lands as identified for the proposed project. Potential impacts to tribal cultural resources associated with this alternative could be greater than those associated with the proposed project depending on site-specific conditions, historical records searches, and a Sacred Lands File search per the Native American Heritage Council directive. A detailed tribal cultural archaeological resource survey and field reconnaissance would be conducted to evaluate if the alternative would cause a substantial adverse change in a significant tribal cultural resource as defined in Public Resources Code Section 5020.1(k). If tribal cultural resources were identified, mitigation measures would be required to during construction activities associated with this alternative to reduce the potential impacts. With implementation of these measures, this alternative's tribal cultural resources impacts could be reduced to less than significant so as to not cause a substantial adverse change in the significance of a tribal resource. Nevertheless, it would be expected that the alternative site would have greater impacts associated with tribal cultural resources compared to the proposed project.

Expanded Landfill Operations – Similar to the proposed project, expanded landfill operations associated with this alternative would not cause a substantial adverse change in a significant tribal cultural resource as defined in Public Resources Code Section 5020.1(k). According to record searches and tribal resource

consultations, no tribal resources are present on the project site. As such, the alternative would not cause a substantial adverse change in a significant tribal cultural resource as defined in Public Resources Code Section 5020.1(k) or as a resource determined by the lead agency. Therefore, this alternative would result in similar tribal cultural resource impacts compared to the proposed project.

Utilities and Service Systems

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – Construction and ground disturbing activities would be similar as those described for the proposed project. However, construction of this alternative would require or result in new infrastructure related to water, storm water drainage, electric power, and telecommunications facilities. Impacts to utilities and service systems associated with this alternative have the potential to be significant due to the lack of known existing water supply infrastructure and lack of an applicable water supply. Whereas it is anticipated that water supplies would be available to serve the alternative during normal, dry, and multiple dry years, additional assessment would be required to determine if the alternate location would obstruct implementation of a sustainable groundwater management plan. New well-sharing and water supply agreements would be required with the regional water storage district compared to the proposed project. Water and electricity supply would be similar when compared to the proposed project. However, as the alternative would substantially support the diversion of organic wastes from County landfills on an ongoing and long-term basis due to project implementation, this alternative would not impair the attainment of solid waste reduction goals, would not generate solid wastes in excess of State or local standards, and would not exceed the capacity of local solid waste infrastructure. This alternative directly results in less volume of waste being landfilled and assists the project proponent in the attainment of solid waste reduction goals. Overall, impacts related to utilities and service systems would result in similar impacts compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.13, *Utilities and Service Systems*, of this SEIR, impacts related to water, solid waste, and stormwater drainage would be less than significant. Expanded landfill operations would still require the same volume of water for daily landfilling operations, as proposed, but would result in less electricity usage and water demand on site compared to the proposed project. Organic materials are targeted to reduce overall methane emissions and meet State-mandated emission reduction targets. As organic materials are shifted to the alternate location for composting, this alternative would increase the volume of organic materials being diverted from landfills, and impacts reacted to solid waste would be similar compared to the proposed project.

Wildfire

Under Alternative 3, Utilize Other County-Owned Property, the project site would request land use entitlements necessary to facilitate the operation of a 100,000 tons per year compost facility on other property owned by the project proponent within the boundaries of the San Joaquin Valley. This alternative would require an amendment to the Kern County General Plan, the issuance of a new CUP, and require a

zone change per the Kern County Zoning Ordinance. This alternative would request modifications to existing land use entitlements to current landfill operations to increase hours for the receipt of waste, facility operating hours, and landfill buffer at the project site.

Composting Facility – As discussed in Chapter 4.17, *Wildfire*, of this SEIR, the proposed project is outside of areas identified by CAL FIRE as having substantial or very high risk, according to the FHSZ Maps for the LRA in Kern County. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. Therefore, it can be projected that an alternate site for composting construction and operations would not expose occupants to pollutant concentrations from a wildfire or interfere with an emergency response plan. Therefore, this alternative would result in similar wildfire impacts compared to the proposed project.

Expanded Landfill Operations – As discussed in Chapter 4.17, *Wildfire*, of this SEIR, the project site is outside of areas identified by CAL FIRE as having substantial or very high risk, according to the FHSZ Maps for the LRA in Kern County. CAL FIRE has determined that Kern County has no Very High Fire Hazard Severity Zones in LRA. The project site and surrounding lands are not categorized as an SRA Moderate, High, or Very High zone. This alternative would not expose occupants to pollutant concentrations from a wildfire or interfere with an emergency response plan. Therefore, this alternative would result in similar wildfire impacts compared to the proposed project.

Comparison of Impacts

The Utilize Other-County Owned Property, Alternative 3, would result in greater impacts to aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, traffic and transportation, and tribal cultural resources. This alternative would result in similar impacts related to energy, geology and soils, greenhouse gas emission, utilities and service systems, and wildfire.

Relationship to Project Objectives

Given the similarities to the proposed project, the Utilize Other-County Owned Property, Alternative 3, would achieve many of the project objectives listed above in Section 6.2, *Project Objectives*, above, with the exception of utilizing existing County-owned lands and existing infrastructure to compost; reducing outbound traffic volume of raw organic waste to off-site regional facilities; and preserving prime farmland and minimize environmental impacts. However, this alternative would create much greater environmental impacts overall to many of the environmental resources identified above. Nevertheless, the objectives that shape the propose project could still be realized to a similar extent under this alternative.

6.7 Environmentally Superior Alternative

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

However, *CEQA Guidelines* Section 15126.6(e)(2) states:

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

Because the No Project, Alternative 1, cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be Alternative 2, Reduced Size Compost Facility alternative. This alternative would have similar or lesser impacts to the majority of the less-than-significant impacts that would occur under the proposed project because less construction disturbance and operational activities would occur and would result in less usage of water, non-renewable energy resources. Impacts related to air quality, GHGs, and utilities and service systems would be increased in comparison to the proposed project if a greater amount of organic materials would be sent for disposal resulting in additional landfill gas generation and limit the ability to comply with State and local reduction statutes and regulations related to solid waste. However, no substantially adverse and long-term impacts would occur to the environment. Overall, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

Chapter 7

Response to Comments

This chapter is being reserved for, and will be included with, the final SEIR.

Chapter 8

Organizations and Persons Consulted

8.1 Federal

U.S. Bureau of Land Management

U.S. Department of Agriculture, Natural Resource
Conservation Service

U.S. Environmental Protection Agency Region IX

U.S. Fish and Wildlife Service

U.S. Postal Service

8.2 State of California

California Air Resources Board

California Department of Conservation

California Department of Fish & Wildlife

California Department of Food and Agriculture

California Department of Industrial Relations,
Division of Occupational Safety and Health

California Department of Public Health

California Department of Resources Recycling and
Recovery

California Department of Toxic Substances Control

California Highway Patrol

California Regional Water Quality Control Board,
Central Valley Region

California State Clearinghouse

California State University, Bakersfield

Caltrans District 6

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo	Kern County Administrative Officer	Maple School District
AT&T California	Kern County Agriculture Department	Native American Heritage Council of Kern County
California City Planning Department	Kern County Board of Supervisors	North West Kern Resources Conservation District
California Farm Bureau	Kern County Environmental Health Services Department	Pacific Gas and Electric
Center on Race, Poverty & the Environment	Kern County Fire Department	San Bernardino County Planning Department
Chumash Council of Bakersfield	Kern County Library, Beale Branch	San Fernando Band of Mission Indians
City of Arvin	Kern County Library, Shafter Branch	San Luis Obispo County Planning Department
City of Bakersfield Planning Department	Kern County Library, Wasco Branch	San Joaquin Valley Air Pollution Control District
City of Bakersfield Public Works Department	Kern County Planning and Natural Resources Department	Santa Barbara County Resource Management Department
City of Delano Planning Department	Kern County Public Works Department	Santa Rosa Rancheria
City of Maricopa	Kern County Sheriff's Department	Semitropic Water Storage District
	Kern County Superintendent of Schools	Shafter Recreation & Parks District
City of McFarland	Kern County Water Agency	Sierra Club
City of Ridgecrest	Kern Mosquito Abatement District	Southern California Edison
City of Shafter	Kern Valley Indian Council	Southern California Gas Company
City of Taft	Kings County Planning Agency	Southern San Joaquin Valley Archeological Information Center, CSUB
City of Tehachapi	Kitanemuk and Yowlumne Tejon Indians	Tejon Indian Tribe
City of Wasco	LIUNA	Tubatulabals of Kern County
David Laughing Horse Robinson	Los Angeles County Regional Planning Department	Tulare County Planning Development Department
Defenders of Wildlife	Lozeau Drury LLP	Tule River Indian Tribe
Inyo County Planning Department		Ventura County Resource Management Agency Planning Division
Kern Audubon Society		
Kern Council of Governments		

9.1 Lead Agency

Kern County Planning and Community Development Department

Lorelei H. Oviatt, AICP – Planning and Natural Resources Director

Katrina Slayton – Planning Division Chief

Terrance Smalls – Supervising Planner

Janice Mayes – Planner III

Kern County Public Works Department

Dave Lee – Waste Management Supervisor

Victor Estrada – Waste Management Specialist

Tony Bonanno – Public Works Manager

Chuck Magee – Public Works Manager

Brandon Fontes – Engineering Manager

Robert Briseno, Jr. – Engineering Aide

9.2 Technical Assistance

SCS Engineers

Wendell Minshew – Project Manager

Tony Kriel – Project Manager

Michael O'Connor – Project Manager

David Waymire – Meteorologist

Jeffrey Leadford – Project Manager

Camille Le – Associate Professional

Cassandra Drotman – Project Manager

Sam Cooke – Vice President

Stantec Consulting Services, Inc.

Hubert Switalski – Senior Archaeologist

Victoria Harvey, RPA – Senior Archaeologist

Krazan & Associates, Inc.

David R. Jarosz, II – Managing Engineer

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