Final
Environmental Impact Report

SCH# 2018101060

Volume 3

Chapter 7 – Response to Comments

SOUTH KERN COMPOST MANUFACTURING FACILITY PROJECT

by South Kern Industrial Center, LLC (PP18125)

Modification to Conditional Use Permit 2, Map #158

Kern County
Planning and Natural Resources Department
Bakersfield, California

February 2022

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

Planning
Community Development
Administrative Operations

February 3, 2022

File: Mod. to CUP 2, Map #158
S.D.: #2 - Scrivner

ADDRESSEE LIST (See Distribution List)

RE: Response to Comments for Draft Environmental Impact Report – Draft Environmental Impact Report for the South Kern Compost Manufacturing Facility by South Kern Industrial Center, LLC (PP18125) (SCH #2018101060)

Dear Interested Party:

Enclosed is a document entitled *Volume 3 - Chapter 7 - Response to Comments*, for the above-referenced project. Section 15088 of the California Environmental Quality Act Guidelines requires the Lead Agency to evaluate comments on environmental issues received from persons who reviewed the Draft EIR and prepare a written response addressing each comment. This document is Chapter 7 of the Final EIR.

A public hearing has been scheduled with the Kern County Planning Commission to consider this request on February 24, 2022 at 7:00 p.m., or soon thereafter, at the Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California.

Thank you for your participation in the environmental process for this project. If you have any questions regarding this letter, please contact me at (661) 862-8607 or smallst@kerncounty.com.

Sincerely,

Terrance Smalls, Supervising Planner
Advanced Planning Division

COMMENTING AGENCIES AND INTERESTED PERSONS; San Joaquin Valley Air Pollution Control District; Kern County Public Works Department - Floodplain Management Section; Kern County Surveyor; Kern County Superintendent of Schools; Kern County Public Health Services Department – Environmental Health Division; Southern California Gas Company

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San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244

Kern County Public Works Department/
Building & Development/Floodplain

Kern County
Env Health Services Department

Kern County Superintendent of Schools
1300 17th Street
Bakersfield, CA 93301-4533

Kern County Public Works Department/
Building & Development/Survey

Southern California Gas Company
9400 Oakdale Ave
Chatsworth, CA 91311

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Chapter 7
Responses to Comments

SCH# 2018101060

Volume 3

SOUTH KERN COMPOST MANUFACTURING FACILITY PROJECT

by South Kern Industrial Center, LLC (PP18125)

Modification to Conditional Use Permit No. 2, Map No. 158

Kern County
Planning and Natural Resources Department
Bakersfield, California

Technical Assistance by:
Kimley-Horn

February 2022

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TABLE OF CONTENTS

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Chapter 7
Response to Comments

7.1 Introduction

Purpose

As defined by Section 15050 of the California Environmental Quality Act (CEQA) Guidelines, the Kern County Planning and Natural Resources Department is serving as "Lead Agency" for the preparation of the Environmental Impact Report (EIR) for the Synagro South Kern County Compost Manufacturing Facility Project (project or proposed project). The Final EIR presents the environmental information and analyses that have been prepared for the project, including comments received addressing the adequacy of the Draft EIR, and responses to those comments. In addition to the responses to comments, clarifications, corrections, or minor revisions have been made to the Draft EIR. The Final EIR which includes the responses to comments, the Draft EIR, and the Mitigation, Monitoring, and Reporting Program, will be used by the Planning Commission and the Board of Supervisors in the decision-making process for the proposed project.

Environmental Review Process

A Notice of Preparation (NOP)/Initial Study (IS) (SCH No. 2018101060) was circulated for a 30-day public review period beginning on October 25, 2018 and ending on November 26, 2018. Fourteen (14) individual written comment letters were received on the NOP. No additional comments were received at the November 13, 2018 public scoping meeting, as no members of the public were in attendance. All public comments received relevant to CEQA-related issues were considered by the County in preparing the Draft EIR.

The Draft EIR for the proposed project was circulated for a 45-day public review period beginning on October 7, 2021 and November 22, 2021. A total of seven (7) comment letters were received on the Draft EIR during this period.

Section 15088 of the *CEQA Guidelines* requires that the lead agency evaluate comments on environmental issues received from persons and agencies that reviewed the Draft EIR and prepare a written response addressing the comments received. The response to comments is contained in this document — Volume 3, Chapter 7 of the Draft EIR. Volumes 1, 2, and 3 together constitute the Final EIR.

7.2 Revisions to the Draft EIR

Amended text or additions to a Draft EIR are typically shown with <u>underlined</u> text, and text removed from the Draft EIR is typically shown with ~~strikethrough~~. Revisions to a Draft EIR are required if clarifications or responses to comments cannot be made without alterations to the document. As shown in the responses to comment below, all comments have been responded to and the discussion is within the scope of the original project analysis included in the Draft EIR. The listed responses provide clarification as requested by the commenter, and none of the comments raise any issues that could result in unidentified impacts or

produce any new impacts. As such, no changes to the text of the Draft EIR was required and no significant revisions have been made which would require recirculation of the Draft EIR pursuant to *CEQA Guidelines* Section 15088.5 (Recirculation of an EIR Prior to Certification).

7.3 Responses to Comments

A list of agencies and interested parties who have commented on the Draft EIR is provided below. A copy of each numbered comment letter and a lettered response to each comment are provided following this list.

Federal Agencies

No comment letters from federal agencies were received.

State Agencies

No comment letters from state agencies were received.

Local Agencies

Letter 1: Kern County Public Works Department, Floodplain Management Section (October 11, 2021)

Letter 2: Kern County Superintendent of Schools (October 15, 2021)

Letter 3: Kern County Public Works, County Surveyor (November 18, 2021)

Letter 4: Kern County Public Health Services Department (November 22, 2021)

Letter 5: San Joaquin Air Pollution Control District (November 30, 2021)

Interested Persons and Organizations

Letter 6: Southern California Gas Company (SoCalGas) (October 27, 2021)

Letter 7: Southern California Gas Company (SoCalGas) (October 27, 2021)

Comment Letter 1: Kern County Public Works Department, Floodplain Management Section (October 11, 2021)

Comment Letter 1: Kern County Public Works Department, Floodplain Management Section (October 11, 2021)

Office Memorandum

KERN COUNTY

To: Planning and Natural Resources Department
Johnathan Jensen

Date: October 11, 2021

From: Public Works Department
Floodplain Management Section
Kevin Hamilton, by Brian Blase

Phone: (661) 862-5098
Email: BlaseB@kerncounty.com

Subject: Draft Environmental Impact Report
South Kern County Composting Manufacturing Facility Project

Our section has reviewed the attached subject documents and has the following comments:

The runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development.

The subject property is subject to flooding.

1-A Therefore, this section recommends the following be included as Conditions of Approval for this project:

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Public Works Department, per the Kern County Development Standards.

Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

Response to Letter 1: Kern County Public Works Department, Floodplain Management Section (October 11, 2021)

1-A: The commenter notes that the project site is subject to flooding and requests the following Condition of Approval (COA) be included:

"The applicant shall provide a plan for the disposal of drainage water originating on site and from adjacent road rights-of-way (if required), subject to approval of the Public Works Department, per Kern County Development Standards.

Associated flood hazard requirements will need to be incorporated to the design of this project per the Kern County Floodplain Management Ordinance."

Although the proposed project is consistent with the language in the requested COA, the requested language will be added during the project approval process and as a recommended COA for the modified Conditional Use Permit.

The proposed project and text in the DEIR is responsive to this comment. Page 4.10-14 Chapter 4.10 Hydrology and Water Quality discusses this topic in relation to Implementation Measure 28. This measure reads as follows:

Implementation Measure 28: Prior to the issuance of any building or grading permits, a plan for the disposal of drainage waters originating on-site and from adjacent road rights of-way shall be approved by the Kern County Department of Engineering and Surveying Services and the Kern County Planning Department, if required. Easements or grant deeds shall be given to the County of Kern for drainage purposes or access thereto, as necessary.

Page 4.10-22 of Chapter 4.10 Hydrology and Water Quality of the Draft EIR is responsive to the request and consistent with Implementation Measure 28. The text on this page is in regard to the on-site drainage. The text on this page reads as follows:

"The Facility currently captures all stormwater and processes water through an existing drainage system. Stormwater from the active composting area would continue to be managed entirely on site with the existing drainage system and in accordance with RWQCB requirements. Stormwater runoff generated from the proposed project site would be collected onsite and drained to the existing stormwater conveyance system. No new construction of storm water drainage facilities either on-site or off-site are proposed. However, unless all existing stormwater facilities are carefully managed and maintained, backup of stormwater in unintended areas of the project site could occur, and/or ponded stormwater could come into contact with composting feedstock storage areas or other portions of the site, including outside of the berms, that could result in stormwater quality degradation. Therefore, implementation of Mitigation Measure MM 4.10-1, which would require implementation of a comprehensive stormwater management plan, and Mitigation Measure MM 4.10-2, which would implement good housekeeping techniques, would be required to protect water quality and downstream beneficial use. In addition, the applicant submitted a "Receive-Discharge Analysis" dated May 2017 that was prepared by McIntosh & Associates, and approved by the Public Works Section that confirms the site is and will be protected from flooding and will meet the County's

Floodplain Management Standards. The "Receive Discharge Analysis" is included as Attachment 1 at the end of this response to comments section.

Wastewater biosolids also constitute a potential source of water quality contamination. In the event that stormwater was to contact wastewater biosolids and then be discharged to natural waters, water quality degradation could occur. However, as discussed previously, all composting operations, including feedstock handling, would occur within an area of the site where stormwater would be contained on site, with no offsite discharge. As a result, even during a major, 100-year, 24-hour storm event, and with the implementation of Mitigation Measures **MM 4.9-1**, **MM 4.10-1, and MM 4.10-2**, potential impacts on water quality associated with the management of stormwater during operations would be minimized, and potential impacts would be reduced to less than significant. Further, as identified in **MM 4.10-1**, the applicant shall apply for and receive approval from the Regional Water Quality Control Board for the proposed project through issuance of revised site-specific WDRs or confirmation of coverage under the General Order. Site-specific WDRs would include discharge requirements and monitoring methods to ensure project compliance."

No changes or modifications to the DEIR have been made and the additional information submitted does not represent new significant information and as such, recirculation of the DEIR is not required. No further comment is required.

Comment Letter 2: Kern County Superintendent of Schools (October 15, 2021)

Comment Letter 2: Kern County Superintendent of Schools (October 15, 2021)

Kern County Superintendent of Schools

Office of Mary C. Barlow ...advocates for children

October 15, 2021

Kern County Planning Department
Attn: Johnathan Jensen, Planner II
2700 M Street, Suite 100
Bakersfield, CA 93301

Our File No.: CO21-0112

RE: **DEVELOPER FEES FOR:** Draft EIR for South Kern Compost Manufacturing Facility; Map 158-25
(2653 Santiago Rd.)

Dear Mr. Johnson,

This office represents the Lakeside Union Elementary and Kern High School Districts with regard to the imposition of developer fees, and appreciates the opportunity to respond on behalf of these districts regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district(s) after reviewing it.

2-A It is our determination that the above mentioned notice of Draft Environmental Impact Report to modify CUP No. 2 to increase the types of composting feedstock accepted at the facility, installing new equipment for pre=processing and post-composting operations, increasing all pile heights from 15-feet to 20-feet, increasing storage time of finished compost product from 7 days to 180 days will have no significant effects on either of the district's facilities and mitigation of this project's impacts on public school facilities will be limited to the collection of statutory fees authorized under Education Code Section 17620 and Government Code Sections 65995 et seq. at the time that building permits are issued.

Thank you for the opportunity to comment on the project. Should you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at anwatson@kern.org.

Sincerely,

Mary C. Barlow
County Superintendent of Schools

awatson

Andrea Watson, Specialist
School District Facility Services

ALW
cc: District(s)

RECEIVED
OCT 21 2021
Kern County Planning & Natural Resources Dept.

1300 17th Street - CITY CENTRE | Bakersfield, CA 93301-4533
(661) 636-4000 | FAX (661) 636-4130 | TDD (661) 636-4800 | www.kern.org

Response to Letter 2: Kern County Superintendent of Schools (October 15, 2021)

2-A: The commenter notes that the proposed project will have no significant impact on either the district's facilities and mitigation will be limited to collection of statutory fees.

This is consistent with the analysis contain on page 4.14-14 of Chapter 4.14 Public Services of the Draft EIR which discusses that impacts would be less than significant. In addition, the County acknowledges that any applicable development or school fees would be paid by the applicant. No changes or modifications to the DEIR have been made. No further comment is required.

Comment Letter 3: Kern County Public Works Department, County Surveyor (November 18, 2021)

Comment Letter 3: Kern County Public Works, County Surveyor (November 18, 2021)

CRAIG M. POPE, P.E., DIRECTOR
ADMINISTRATION & HUMAN RESOURCES
FINANCE & ENGINEERING
BUILDING & CODE
OPERATIONS

KERN COUNTY
PUBLIC WORKS

2700 "M" STREET, Suite 400
BAKERSFIELD, CA 93301-2370
Phone: (661) 862-5000
FAX: (661) 862-8851
Toll Free: (800) 552-5376 Option 5
TTY Relay: (800) 735-2929

November 18, 2021

To: Lorelei Oviatt, Director
Planning and Natural Resources Department

Ronelle Candia, Supervising Planner

From: Brian Blacklock, County Surveyor
By: Andres Arias, Engineering Tech III Phone: 28959

Subject: Draft Environmental Impact Report for the South Kern County Composting Manufacturing Facility Project by South Kern Industrial Center, LLC (SCH #2018101060)

I have reviewed the above noted project DEIR and recommend the following conditions be placed on the Conditional Use Permits:

3-A

1. Prior to issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act.
2. Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the Professional Land Surveyor's Act.
3. Upon completion of project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5 (a).

Thank you for the opportunity to review and comment on this project. Should you have any questions please contact me.

Response to Letter 3: Kern County Public Works Department, County Surveyor (November 18, 2021)

3-A: The commenter requests that three conditions of approval be placed on the Conditional Use Permit.

These comments do not pertain to an environmental issue and do not directly apply to the CEQA process.

Nonetheless, the requested language will be added during the project approval process and as a recommended COA for the modified Conditional Use Permit.

The conditions will be added and are as follows:

Prior to the issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act.

Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the Professional Land Surveyor's Act.

Upon completion of the project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5(a).

Comment Letter 4: Kern County Public Health Services Department (November 22, 2021)

Comment Letter 4: Kern County Public Health Services Department (November 22, 2021)

KERN COUNTY
Public Health Services
DEPARTMENT

BRYNN CARRIGAN
DIRECTOR

KRISTOPHER LYON, MD
HEALTH OFFICER

2700 M STREET, SUITE 300 BAKERSFIELD, CALIFORNIA 93301-2370 661-862-8740 WWW.KERNPUBLICHEALTH.COM

INTEROFFICE MEMORANDUM

To: Katrina Slayton, Division Chief Date: November 22, 2021
From: Dayana Torres, EHS
Subject: Draft EIR – South Kern Country Composing Manufacturing Facility

The Kern County Environmental Health Division has reviewed the above referenced project. This Division has the local regulatory authority to enforce state regulations and local codes as they relate to waste discharge, water supply requirements, and other items that may affect the health and safety of the public or that may be detrimental to the environment.

The Environmental Health Division requests that the following conditions be placed on the subject project and be satisfied prior to issuance of any required permits:

4-A

1. A revision or modification to the current Solid Waste Facility Permit (SWFP) of the Class III non-hazardous waste landfill due to the proposed changes and operations:
    - An update to the composting design capacity (Biosolids 200,000TPY, Food Materials 100,000TPY, and Bulking Agents 370,000TPY)

Response to Letter 4: Kern County Public Health Services Department (November 22, 2021)

4-A: The comment from Kern County Public Health Services Department summarizes the departments responsibilities and requests a condition to update the composting design capacity to include 200,000 tons per year (tpy) of biosolids, 100,000 tpy of food material, and 370,000 tpy of bulking agents.

To clarify, this facility is not a landfill, but a composting facility that recycles compostable materials. The existing compost facility is currently permitted to receive and process a total of 670,000 wet tons of material per year (wtpy). These materials are currently comprised of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of wood chips and agricultural waste products. Under the proposed project the existing volumes of wtpy would not be changed but the volume of feedstocks received could vary depending on the feedstocks and blend ratio. The CUP modification will expand the types of compostable materials the Facility is authorized to receive as listed in on Page 3-15 of the Draft EIR under "Expanded Feedstocks". The list of Expanded Feedstocks are consistent with new state law and enable the Facility to assist communities in meeting new state law landfill diversion requirement. As noted on page 3-12 of the Project Description of the Draft EIR, "approval of the proposed CUP modifications may require alterations to the above Existing Permits. The Project Proponent is currently working with the respective agencies to coordinate any necessary permit modifications with this CUP Modification."

It should be noted that this CUP Amendment would not increase the total volumes that the Facility can receive and it would not change the facilities ability to meet the desired mix ratio and is consistent with page 3-14 of the Project Description of the Draft EIR, which describes the covered aerated static pile (CASP) composting system and discusses the blend ratio and the feedstocks. A description of how the new feedstocks are managed and composted at the facility is included on Page 3-17 "New Feedstock Processing" of the Draft EIR.

These comments relate to the internal operations and permits of the facility and do not directly pertain to the EIR analysis and do not directly apply to the CEQA process and do not change the conclusions in the EIR, therefore no changes to the document have been made or are required.

Comment Letter 5: San Joaquin Valley Air Pollution Control District (November 30, 2021)

Comment Letter 5: San Joaquin Air Pollution Control District (November 30, 2021)

San Joaquin Valley AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

November 30, 2021

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

Project: Draft Environmental Impact Report for South Kern Compost Manufacturing Facility (Modification to Conditional Use Permit 2, Map #158)

District CEQA Reference No: 20211136

Dear Mr. Jensen

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Draft Environmental Impact Report (DEIR) for the project referenced above from Kern County (County). The Conditional Use Permit Modification would allow the South Kern Compost Manufacturing Facility (Facility) to accept additional types of "mixed materials" and "organic wastes" in response to Assembly Bill 1826 and Senate Bill 1383 requirements (Project). Currently, the Facility maintains a 670,000 wet tons per year capacity, with a 400,000 wet tons per year capacity for biosolids, and a 270,000 wet tons per year capacity for wood chips and agricultural waste products. It is important to note with implementation of the Project, the Facility 670,000 wet tons per year capacity is not expected to change, in addition the level of vehicle trips is not expected to increase. The Project is located at 2653 Santiago Road, near Bakersfield, CA (APN 220-110-70. The District offers the following comments:

1) Construction Emissions

5-A Project construction air emissions are short-term emissions generated from construction activities such as mobile heavy-duty diesel off-road equipment and are expected to have a less than significant impact on air quality. However, the District recommends, to further lessen air quality impacts from construction-related diesel exhaust emissions, the County consider the feasibility of incorporating the below measure into the Project.

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

www.valleyair.org www.healthyairliving.com

5-A

- *Recommended Measure:* To reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment.

2) Operational Emissions

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from (Heavy-Heavy Duty) HHD Trucks, the single largest source of NOx emissions in the San Joaquin Valley. The District recently adopted the 2018 PM2.5 Plan which includes significant new reductions from HHD Trucks, including emissions reductions by 2023 through the implementation of the California Air Resources Board (CARB) Statewide Truck and Bus Regulation, which requires truck fleets operating in California to meet the 2010 standard of 0.2 g/bhp-hr NOx by 2023. Additionally, to meet the federal air quality standards by the 2023 to 2024 attainment deadlines, the District's Plan relies on a

5-B

significant and immediate transition of heavy duty truck fleets to zero or near-zero emissions technologies, including the near-zero truck standard of 0.02 g/bhp-hr NOx established by the California Air Resources Board.

Based on the DEIR, the level of on-road vehicle trips is not expected to increase. However in relation to on-road vehicle trips, the DEIR states on page 276 *"…project also proposes the potential to mitigate non-stationary sources further by phasing in compressed natural gas (CNG) fueled delivery trucks in the future."* Although transitioning to CNG fueled trucks in the future would further lessen the Project operational air quality impacts, the District recommends the County consider the feasibility of incorporating the below measure into the Project:

- *Recommended Measure*: Fleets associated with operational activities utilize the cleanest available HHD trucks, including zero and near-zero (0.02 g/bhp-hr NOx) technologies.

- *Recommended Measure*: All on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) utilize zero-emissions technologies.

3) Operational Emissions - Reduce Idling

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air contaminant impacts associated with failure to comply with the state's Heavy Duty

5-C

anti-idling regulation (e.g. limiting vehicle idling to specific time limits). The diesel exhaust from excessive idling has the potential to impose significant adverse health and environmental impacts.

The County should deploy strategies to ensure compliance of the anti-idling regulation, especially near sensitive receptors, and discuss the importance of limiting the amount of idling.

5-C

- *Recommended Measure: Construction and operational fleets limit vehicle idling pursuant to 13 CCR § 2485 and 13 CCR § 2480.*

4) Health Risk Assessment

The District reviewed the Project's Health Risk Assessment (HRA) and offers the following comments:

5-D

- The HRA did not include diesel particulate matter (DPM) emissions associated with construction activities. As such, the District recommends the HRA be revised to incorporate the DPM associated with Project construction activities.

- For composting and material handling, the HRA incorporated the use of the District's green waste toxic profiles. However, for this Project, since the Facility will be receiving biosolids, the District recommends the HRA be revised to incorporate the use of the District's biosolids toxic profiles for the portion of Particulate Matter (PM) and Volatile Organic Compounds (VOC) attributed to biosolids.

5) Nuisance odor

5-E

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often resulting in citizen complaints. The DEIR states on page 286 *"… the project site was originally developed, the regulations of the California Integrated Waste Management Board, Title 14, CCR Section 17863.4 required all compostable material handling operations and facilities to prepare and maintain a site-specific Odor Impact Minimization Plan (OIMP) to minimize the potential for nuisance-level off-site odors. Synagro's SKIC facility developed an OIMP and maintains the plan with oversight by the Kern County Environmental Health Services Department."* Additionally the DEIR states *"In order to continue compliance with the OIMP, the plan would be updated to reflect the changes planned by the current project and would make adjustments to the Odor Monitoring Protocol, Operating Procedures to Minimize Odor and Contingency Plans as necessary."* Therefore to ensure odor impacts are minimized, the District recommends the County incorporate the below measure into the Project:

Recommended Measure: The Facility shall maintain a current Odor Impact Minimization Plan that is consistent with the ongoing activities of the Facility and Project.

6) District Rules and Regulation

The District issues permits for many types of air pollution sources and regulates some activities not requiring permits. A project subject to District rules and regulation would reduce its impacts on air quality through compliance with regulatory requirements. In general, a regulation is a collection of rules, each of which deals with a specific topic. Here are a couple of example, Regulation II (Permits) deals with permitting emission sources and includes rules such as District permit requirements (Rule 2010), New and Modified Stationary Source Review (Rule 2201), and implementation of Emission Reduction Credit Banking (Rule 2301).

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (661) 392-5665.

5-F

6a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 requires operators of emission sources to obtain an Authority to Construct (ATC) permit and Permit to Operate (PTO) from the District. District Rule 2201 requires that new and modified stationary sources of emissions mitigate their emissions using best available control technology (BACT).

This Project will be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permits.

Prior to commencing construction on any permit-required equipment or process, a finalized Authority to Construct (ATC) must be issued to the Project proponent by the District. For further information or assistance, the Project proponent may contact the District's Small Business Assistance (SBA) Office at (661) 392-5665.

6b) District Rule 9510 (Indirect Source Review)

Per District Rule 9510 (Indirect Source Review) section 4.4.3, a development project on a facility whose primary functions are subject to District Rule 2201 or District Rule 2010 are exempt from the requirements of the rule. The District has reviewed the information provided and has determined that the primary functions of this Project are subject to District Rule 2201 (New and Modified Stationary Source Review Rule) or District Rule 2010 (Permits Required). As a result, District Rule 9510 requirements and related fees do not apply to the Project referenced above.

6c) Other District Rules and Regulations

5-F The Project may also be subject to the following District rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

7) District Comment Letter

5-G The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at Matt.Crow@valleyair.org or by phone at (559) 230-5931.

Sincerely,

Brian Clements
Director of Permit Services

Mark Montelongo
Program Manager

Response to Letter 5: San Joaquin Valley Air Pollution Control District (November 30, 2021)

The letter is started with a summary of the proposed project then transitions into a list of comments.

5-A: The commenter recommends mitigation to further lessen air quality impacts from diesel related exhaust emissions by using the cleanest available off-road construction equipment, including the latest tier equipment.

Page 4.3-54 of Chapter 4.3 – Air Quality of the Draft EIR contains Table 4.3-6 on Short Term Project Emissions. This table provides the values of both unmitigated and mitigated emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), carbon monoxide (CO), Sulphur oxides (SO_x), particulate matter 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$). In all cases both unmitigated and mitigated construction emissions were below the significance thresholds.

Page 4.3-56 of Chapter 4.3 – Air Quality of the Draft EIR contains Table 4.3-8 Post Project (Operational) Stationary Source Emissions. This table also provides emission values for the above listed pollutants. In cases, with the exception of ROG, all emissions would be below thresholds. Emissions for ROG would be with mitigation emission reduction credits (ERC) would be under thresholds and less than significant.

Regarding the requested mitigation, Mitigation Measure MM 4.3-5 is directly responsive to the request as it contains specific requirements related to use of equipment. Among these are proper maintenance of equipment, minimizing idling time when not in use, operational limits to 8-hours per day, use of electric equipment when possible, emission controls to reduce NOx, and use of Tier 3 certified or higher equipment greater than 50 horsepower.

Implementation of these measures would ensure project impacts remain less than significant and do not violate air standards. No changes or modifications to the DEIR have been made. No further comment is required.

5-B: The commenter provides background information on the existing attainment status within the Air Basin and provides information on emissions that occur from Heavy-Heavy Duty (HHD) trucks. The commenter recognizes that the project proposes to help reduce air quality emissions through the phasing in of compressed natural gas (CNG) delivery trucks. The commenter then recommends that the HHD truck uses are the cleanest available and that all on-site service equipment use zero-emissions technology.

The Commenter is referred to Response to Comment 1-A, above. The above response discusses emissions and mitigation that would reduce construction and operational emissions to below significance thresholds. More specifically Mitigation Measure MM 4.3-5 requires off-road equipment engines over 50 horsepower shall be Tier 3 certified or higher (unless Tier 3 equipment, has been determined to not be available), and related to use of electric vehicle the applicant will be required to use electric equipment whenever possible in lieu of diesel or gasoline-powered equipment, and the applicant will use existing power sources (i.e., power poles) when available to minimize the use of higher polluting gas or diesel generators.

The requirements are responsive to the request. In addition, impacts were already reduced to less than significant with the mitigation incorporated. Additional mitigation is not required.

No changes or modifications to the DEIR have been made. No further comment is required.

5-C: The commenter notes that reduction in vehicle idling is a strategy to reduce localized PM2.5 and toxic air contaminant impacts and that excessive idling can result in significant adverse health effects. The commenter recommends that the County deploy strategies focused on anti-idling regulations and suggests construction and operational fleets limit idling pursuant to 13 California Code of Regulations § 2485 and 13 CCR § 2480.

The commenter is referred to Response to Comment 1-A, above, which discusses the level of impact and mitigation proposed. More specifically, Mitigation Measure MM 4.3-5 requires "Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than ten minutes."

This is responsive the commenters request in relation to minimizing idling of equipment.

No changes or modifications to the DEIR have been made. No further comment is required.

5-D: The commenter notes that the Health Risk Assessment (HRA) conducted for the project did not include diesel particulate matter (DPM) associated with construction activities in the analysis and recommends it be revised to include DPM associated with Project construction activities. The commenter also recommends the HRA be revised to include the Districts biosolids toxic profiles for the portion of Particulate Matter (PM) and Volatile Organic Carbons (VOCs) attributed to biosolids.

The commenter is correct that the diesel particulate matter (DPM) associated with construction activities was not used in an evaluation of the HRA as the Project construction activities are limited to six-months and were deemed to not contribute significantly to the health risk from the Project. As requested, a revised HRA was conducted to include the DPM from construction activities. The revised analysis concluded that the construction activities would increase the cancer risk at the point of maximum impact by 0.34 in a million and the chronic hazard index (HI) by 0.05. The revised HRA is included as Attachment 2 at the end of this response to comments section.

The commenter also recommended that a portion of the PM and VOC emissions be attributed to the biosolid's toxic profile rather than green waste. The decision to use green waste for 100 percent of the emissions above baseline in the HRA was determined to be conservative since the hazardous air pollutants (HAPs) associated with green waste will result in higher health risks than HAPs associated with biosolids. However, a revised HRA was completed to demonstrate that this would be the case. The revised HRA analyzed two scenarios, one with 100 percent biosolids HAP emissions and the other with 100 percent green waste HAP emissions. The scenario using the green waste toxic profile resulted in higher risk for cancer, chronic and acute. Therefore, any percentage of biosolids mixed with green waste would only reduce the risk from the 100 percent green waste scenario.

The revised HRA does not include or contain any information that is considered new or significant information that requires recirculation of the EIR but confirms that the Project does not result in significant impact to Air Quality.

5-E: The commenter notes that while offensive odors rarely cause physical harm, they can be unpleasant and lead to distress. The Commenter cites PDF page 286 of the DEIR (page 4.3-66 of the DEIR) discussing the use of an Odor Impact Minimization Plan (OIMP) and recommends the facility maintains a current OIMP consistent with the activities at the facility.

Page 4.3-66 of Chapter 4.3 Air Quality of the Draft EIR discusses the use and implementation of an OIMP for the project. A portion of text from that page is copied below. The underlined segment is directly responsive to the commenters request. The OIMP would be updated and consistent with project operations.

"When the project site was originally developed, the regulations of the California Integrated Waste Management Board, Title 14, CCR Section 17863.4 required all compostable material handling operations and facilities to prepare and maintain a site-specific Odor Impact Minimization Plan (OIMP) to minimize the potential for nuisance-level off-site odors. Synagro's SKIC facility developed an OIMP and maintains the plan with oversight by the Kern County Environmental Health Services Department.

In order to continue compliance with the OIMP, the plan would be updated to reflect the changes planned by the current project and would make adjustments to the Odor Monitoring Protocol, Operating Procedures to Minimize Odor and Contingency Plans as necessary. (emphasis added) These changes to the OIMP would further ensure that the project would not impact nearby receptors."

No changes or modifications to the DEIR have been made. No further comment is required.

5-F: The commenter references the Districts rules and regulations, specifically Rules 2010 and 2201 – Air Quality Permitting for Stationary Sources, Rule 9510 (Indirect Source Review), and Other District Rules and Regulations, which are discussed below.

The commenter is referred to page 4.35 of Chapter 4.3 Air Quality of the Draft EIR which discusses Rules 2012 and 2201. The commenter is referred to page 4.3-7, which discusses Rule 9510 in context of the Indirect Source Review (ISR) program on

The commenter is referred to page 4.3-24 of the Draft EIR, which discusses Rule 4102 in relation to SJVAPCDs odor and nuisance guidance.

Regarding compliance with Rule 4601 and 4002 related to architectural coatings, and demolition or removal of structures, respectively, the project does not include expansion of physical structures or buildings, or removal of any, thus these rules would not be applicable. Similarly, the project does not include use of cutback, slow cure, or emulsified asphalt, paving, or maintenance operations of such, thus Rule 4641 also would not be applicable.

No changes or modifications to the DEIR have been made. No further comment is required.

5-G: The commenter requests the comment letter be provided to the applicant.

The County will forward the comment letter to the applicant.

Comment Letter 6: Southern California Gas Company (SoCalGas) (October 27, 2021)

Comment Letter 6: SoCalGas a Sempra Energy Company (October 27, 2021)

SoCalGas
A Sempra Energy utility

Transmission Technical Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

October 27, 2021

Johnathan Jensen
Kern County
JensenJ@kerncounty.com

Subject: **(PP18125) (SCH #2018101060)**

DCF: **1955-21-203**

6-A

Southern California Gas Company (SoCalGas) Transmission Department operates and maintains high-pressure natural gas transmission pipeline(s) in the vicinity of your project. The pipeline is shown on the attached map(s). Please note, only the high-pressure transmission pipeline information is current on these atlas prints.

Our Gas Distribution Department may have other gas facilities within your project area. To assure no conflict with the SoCalGas' distribution pipeline system, please contact

NorthwestDistributionUtilityRequest@semprautilities.com.

This is only a response to a gas facility map request; a review of potential conflicts associated with your request has not been conducted. Consequently, **this letter does not constitute clearance for any construction work near or around SoCalGas' pipeline(s)**. As your project plans are developed, you must notify SoCalGas - Gas Transmission Department regarding the improvements that are proposed near our pipeline(s) and within our easement(s) before you begin any construction, including potholing. In doing so, please allow sufficient time as there may be certain requirements that need to be incorporated into your project's design and could significantly affect your project construction schedule.

Best Regards,

Pipeline Planning Assistant
SoCalGas Transmission Technical Services
SoCalGasTransmissionUtilityRequest@semprautilities.com


CONFIDENTIAL - UNAUTHORIZED DUPLICATION PROHIBITED
Map Number: 1955-21-203
Map Type: Gas Asset Map
Printed By: GTTS
Printed Date: 10/26/2021

Response to Letter 6: Southern California Gas Company (SoCalGas) (October 27, 2021)

6-A: This letter notes that the Southern California Gas Company (SoCalGas) operates and maintains high pressure gas lines in the vicinity of the project. The comment notes the letter is not clearance for any work and the SoCalGas must be notified as plans are developed.

The proposed project would not make any modifications or result in excavations over or adjacent to know gas lines. SoCalGas will be contacted as needed as further detailed engineering plans are developed and if any work on or near gas facilities are required.

No changes or modifications to the DEIR have been made. No further comment is required.

Comment Letter 7: Southern California Gas Company (SoCalGas) (October 27, 2021)

Comment Letter 7: SoCalGas a Sempra Energy Company (October 27, 2021)

SCG Transmission General Requirements

SoCalGas
A Sempra Energy utility

Transmission Technical
Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

October 27, 2021

Johnathan Jensen
Kern County
JensenJ@kerncounty.com

Subject: **(PP18125) (SCH #2018101060)**

DCF: **1955-21-203**

The following are general requirements provided when performing work or planning projects near SoCalGas high pressure lines. Please review requirements along with project plans and notify SoCalGas Transmission Department about any questions or conflicts.

It is highly recommended that communication is maintained with SoCalGas to address all conflicts. Depending on the specific scope of your project there may be less or more requirements that need to be discussed regarding your project.

7-C

1. Consideration must be given to the safety of our pipeline(s) during all project stages.
2. SoCalGas must have continuous and uninterrupted access to the pipeline(s) and easement(s). In addition, SoCalGas conducts routine patrols and surveys of the pipeline(s); SoCalGas needs drivable access along the pipeline(s)/easement(s).
3. Buried pipelines must have a minimum cover of 3 feet and a maximum cover of 7 feet below finished grade. No change of grade whatsoever, even within these parameters, shall be made without prior approval of SoCalGas.
4. Prior to SoCalGas approving encroachment onto its easement(s), SoCalGas must be furnished with final grading plans showing the depth of the pipeline(s) below the existing surface and the depth of the pipeline(s) below the proposed finished grade. These elevations must meet SoCalGas' requirements for buried pipelines.
5. No permanent structures, such as buildings, block walls, foundations, gates, etc., shall be constructed within the easement or over the pipeline(s).

Page 1 of 3

SCG Transmission General Requirements

6- There shall be no planting of trees or other deep-rooted plants within the easement(s) or over the pipeline(s).

7- Substructures shall cross perpendicular to the easement(s). Substructure crossings must provide a minimum of 18-inches vertical clearance from the pipeline(s). Additional separation is required for leach lines, fuel lines, etc.

8- Parallel encroachments within the easement(s) are prohibited. In areas where a parallel substructure is being constructed outside of the easement(s), SoCalGas requires five feet of separation, with three feet of undisturbed fill, in order to protect the integrity of our facilities and allow the facilities to be safely accessed during inspection, maintenance, and repair. Additional separation may be needed for leach lines, fuel lines, high voltage electric, etc.

9- All encroachments onto SoCalGas' easement(s) must have written approval of SoCalGas prior to construction or encroaching onto the easement(s).

10- All work within the SoCalGas easement(s) and/or within 10 feet of the pipeline(s) must be witnessed by a SoCalGas representative, and no work will be allowed without the SoCalGas representative on site.

7-C

11- No heavy equipment shall cross the pipeline(s) without SoCalGas' approval. Additional protective measures may be required where heavy equipment is expected to cross the pipeline(s).

12- No mechanical equipment shall operate within three horizontal feet of the pipeline(s), and any closer work must be performed by hand.

13- No mechanical equipment shall operate within two vertical feet of the pipeline(s), and any closer work must be performed by hand.

14- Buried pipeline(s) shall not be left exposed, and exposed pipeline(s) shall not be buried, without prior inspection and approval by SoCalGas. If the pipeline(s) are exposed during construction (e.g. substructure crossings, etc.), the pipeline must be backfilled with sand or zero-sack slurry only.

15- No vibratory compaction is permitted over the pipeline(s). In rare cases, vibratory compaction may be approved by SoCalGas' Engineering Department following review of detailed site conditions, pipeline data, and equipment specifications.

16- All contractors and subcontractors must be notified of the presence of the pipeline(s).

17- Contractors and subcontractors must call DigAlert (811) at least 2 working days prior to construction, grading, or excavation.

18- Once approved, encroachments within SoCalGas' easement(s) shall be documented in an easement amendment or other document, as deemed appropriate by SoCalGas' Land Services Department.

SCG Transmission General Requirements

In addition to the previous requirements, SoCalGas recommends the following:

7-C

19- Potholes should be made, as necessary, to establish the horizontal and vertical alignment of the pipeline(s) within the project area. This information should be indicated on the plans, as needed. CAUTION: SoCalGas personnel must be present during potholing operations. Arrangements for SoCalGas personnel to stand by during potholing activities can be made by calling DigAlert at 811.

20- Consideration should be given to building setbacks from the easement lines. A minimum 15-foot setback is recommended whenever possible.

21- All potential buyers or tenants of the property should be made aware of the presence of the pipeline(s) and easement restrictions.

Best Regards,

SoCalGas Transmission Technical Services

Response to Letter 7: Southern California Gas Company (SoCalGas) (October 27, 2021)

7-A: SoCalGas provided a list of general requirements that are needed when performing work or planning projects near high pressure lines. The commenter does not raise any issues or concerns with the EIR analysis. As recommended, the project applicant, as work progresses will maintain communication with SoCalGas to address any potential conflicts. Regarding the list of 21 requirements, the County and applicant are aware of these requirements and as applicable, will be followed prior to and/or upon the initiation of construction activities as appropriate.

No changes or modifications to the DEIR have been made. No further comment is required.

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Attachment 1

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RECEIVE-DISCHARGE ANALYSIS

for

Compost Facility Expansion
(APN 220-110-70)

Prepared for:

South Kern Compost Manufacturing Facility
P.O. Box 265
Taft, CA 93268

Prepared by:

McINTOSH & ASSOCIATES
© 2016
2001 Wheelan Court
Bakersfield, California 93309
Contact: Sean Reed, R.C.E. 64620

MAY 2017

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APPENDICES

1.0 INTRODUCTION

This report has been prepared to support the expansion of the existing South Kern Compost Manufacturing Facility located southwest of Bakersfield in Kern County (see Figures 1 & 2). The objective of this report is to model the 100-year flooding patterns to determine the useable area west of the existing facility without adversely affecting the neighboring properties. This report will:

- Give an overview of the property
- Discuss the proposed use of the property
- Describe the upstream watershed
- Explain the hydrology and hydraulic methodology
- Provide a summary along with exhibits showing the pre- and post-developed flow depths, a composite that depicts the differences, and the post-developed water surface elevations.

2.0 PROJECT BACKGROUND

The proposed project site (APN 220-110-70) is located southwest of Bakersfield and east of Taft, CA, along South Lake Road. It's located in Section 24, Township 32 South, Range 25 East. The parcel is bound on the north by Santiago Road, on the east and south by a recently constructed solar facility, and on the west by a railroad spur running parallel with South Lake Road. The gross area of the parcel is approximately 155 acres. The first phase of the composting facility uses about 50 acres of the 100 acres that was approved by Kern County with a Conditional Use Permit (CUP) in 2002 (see Appendix A & Figure 3). The remaining unused area of the parcel has been left in its natural condition with the exception of an area south of the first phase of the composting facility that was used as a borrow site for creating a 5-ft high berm around the facility. The approved Receive & Discharge study prepared by Porter-Robertson Engineering for the project showed the entire 100 acre portion of the entitled site protected by a 5-ft. high berm with a v-shaped berm south of the property line to split the run-on flows around the project (see Figure 4).

The natural ground in the area generally slopes north, northwest at an average slope of 0.5%. Existing elevations within the parcel range from approximately 333-ft. to 315-ft. above mean sea level with a mean elevation of 326'. Run-on flows for this parcel are generally from upland areas; more specifically the northern side of the San Emigdio Mountains. The contributing watershed ultimately ends up in the Buena Vista Lake Bed, north of the site.

Additionally, the Federal Emergency Management Agency (FEMA) has established flood insurance risk zones throughout Kern County in accordance with the National

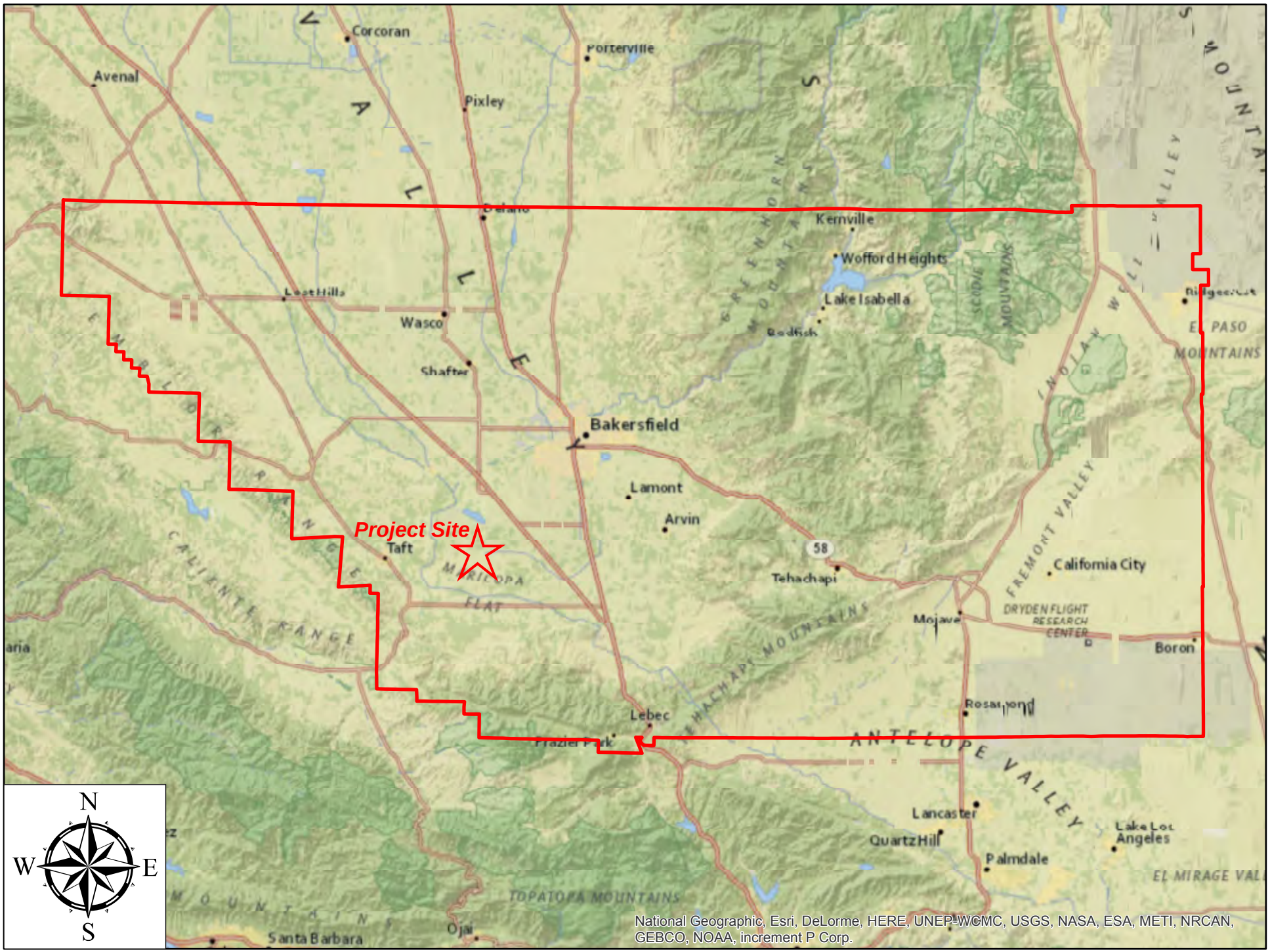
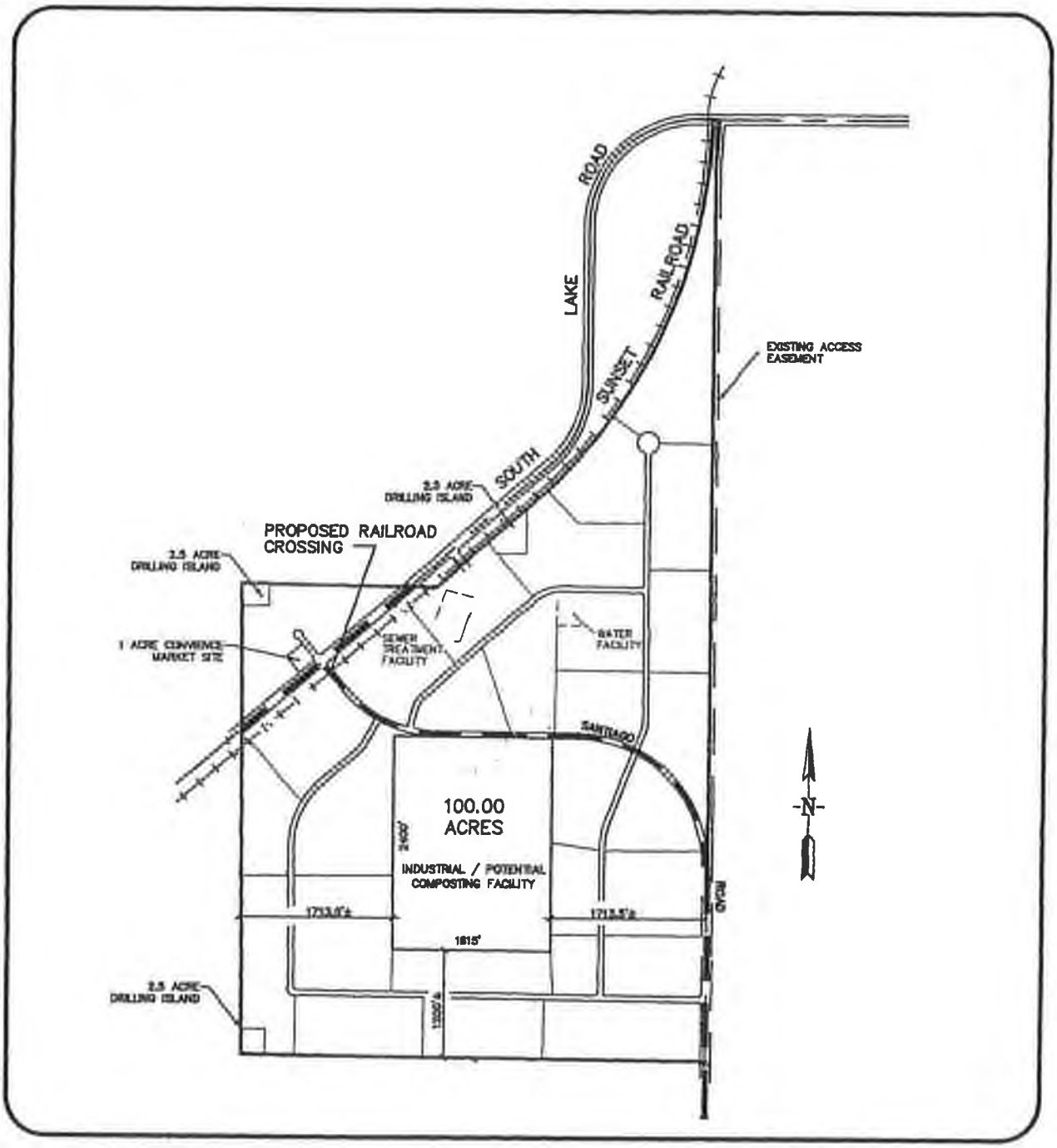


Figure 1: Regional Map

Figure 2: Project Site

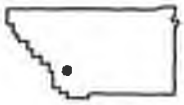


SPECIFIC PLAN

CONCEPTUAL PLAN

KERN COUNTY
GENERAL PLAN
KERN COUNTY BOARD OF SUPERVISORS

COUNTY LOCATION MAP



T32S,R25E,
M.D.B.M.

South Kern Industrial Center

Figure 3 - Specific Plan Exhibit

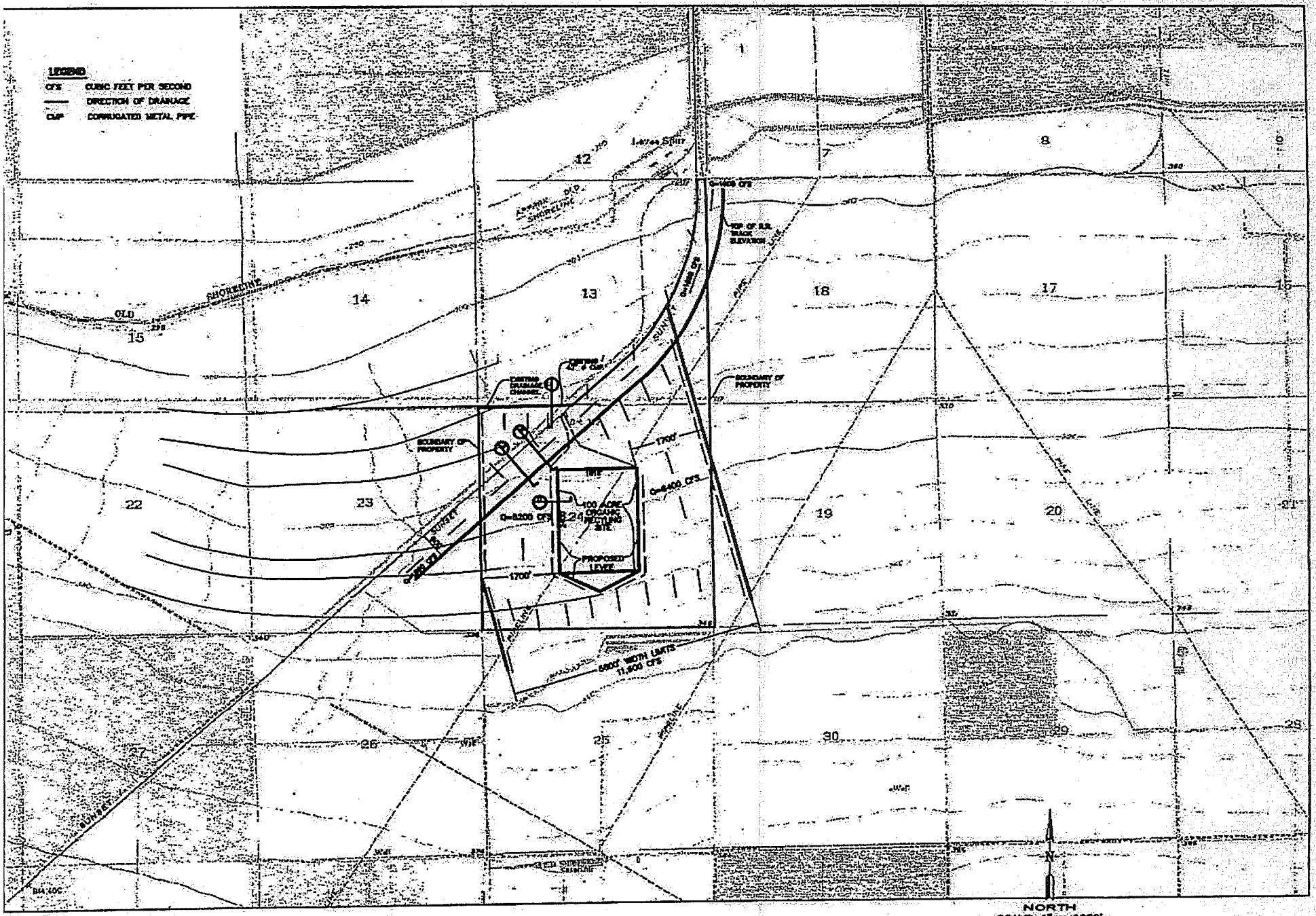


Figure 4: Porter-Robertson Flood Analysis Map

Flood Insurance Program (NFIP) (see Figure 5). This property is located within a FEMA Special Flood Hazard Area (SFHA) with a Zone 'A' designation. Because detailed hydraulic analyses are not performed to define these areas, no Base Flood Elevations (BFEs) are shown in this zone.

3.0 REGULATORY REQUIREMENTS

The Kern County Development Standards (or the Standards), Division Four "Standards for Drainage", establishes minimum requirements for addressing waters generated by storms to provide reasonable levels of protection for life and property, and the maintenance of necessary access to property or passage of the traveling public on public highways. In general, the mitigation measures for the protection of life and property and the maintenance of emergency vehicle access are based on the Capital Storm Design Discharge (CSDD). This is commonly referred to as the 100-year storm.

The Kern County Code of Building Regulations (or the Code), Chapter 17.48 "Floodplain Management", establishes minimum requirements for addressing flood hazards within Kern County. The primary purpose of this chapter is to promote the public health, safety, general welfare, and to minimize public and private losses due to flood conditions in Special Flood Hazard Areas (SFHA) as defined by the Federal Emergency Management Agency (FEMA). These SFHA's can be found in various engineering reports and maps such as the *Flood Insurance Study (FIS), Kern County, California* and the *Flood Insurance Rate Maps (FIRM)*.

Based on FEMA's Flood Insurance Rate Maps, this project is located within Panel 06029C 2700E (Figure 5). This map shows that the project limits are within a FEMA Flood Zone 'A'. By definition, this designation is the flood insurance risk zone that is subject to inundation by the 1% annual chance flood (also known as the 100-year flood) and is the flood that has a 1% chance of being equaled or exceeded in any given year. Because detailed hydraulic analyses are not performed to define this hazard zoning, no Base Flood Elevations (BFEs) are shown.

To permit this project in Kern County within a SFHA, the Code requires the finished floor to be elevated a minimum of 12-inches above the water surface elevation determined for a 100-year storm.

4.0 HYDROLOGY & HYDRAULIC MODELING

The hydrology and FLO-2d model prepared for the adjacent solar projects on the south side of the compost facility was used as the foundation of this analysis. This approved study titled *Hydrology Report for SKIC20 Solar LLV PV* was prepared by Meyer Engineering, Inc. (February 2014) and calculated hydrographs at two concentration points where the runoff from the San Emigdio Mountain range crosses the California

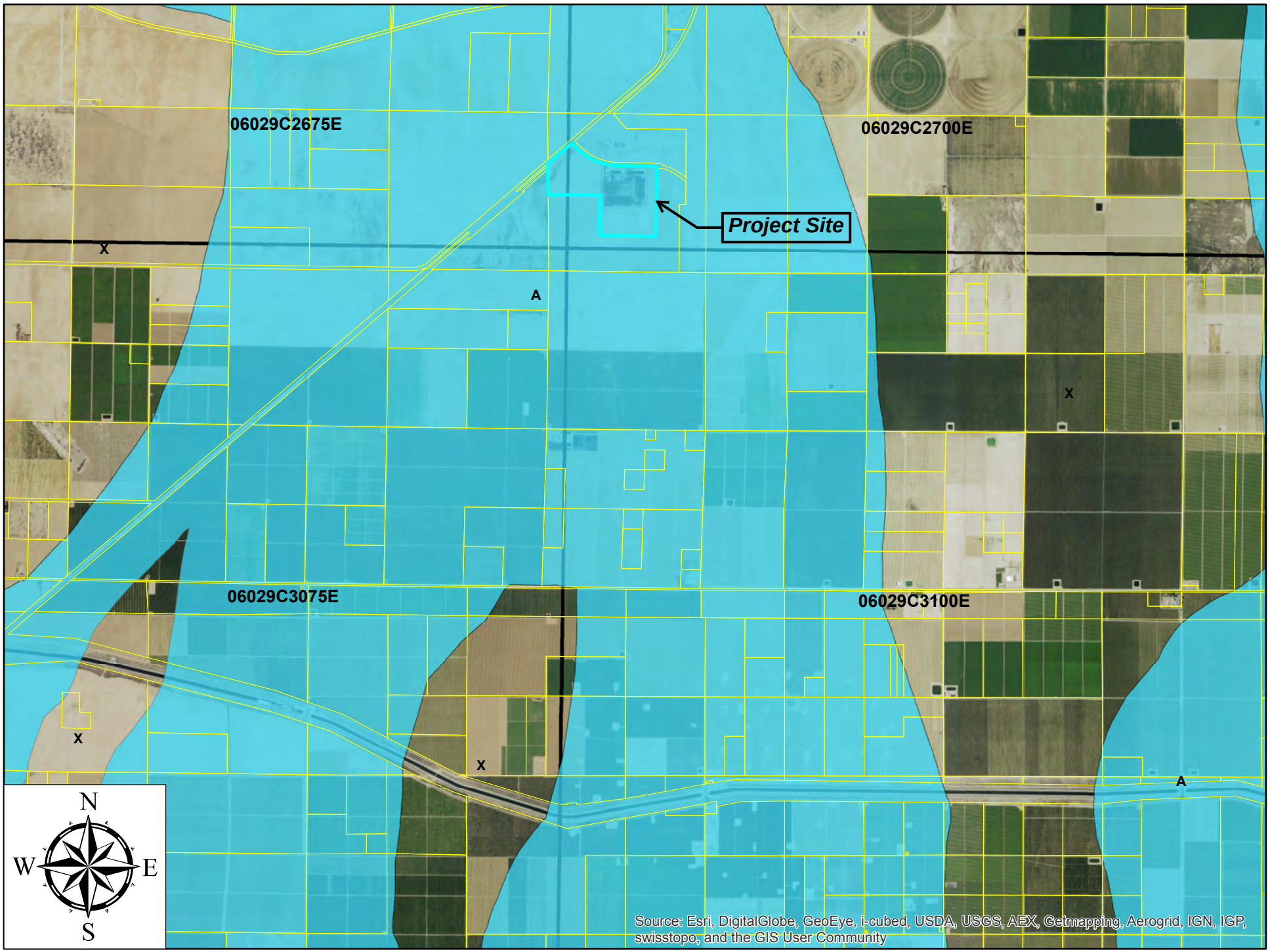


Figure 5: FEMA Flood Zone

Aqueduct. The Meyer Engineering study then performed a FLO-2d model from the California Aqueduct north through the South Kern Industrial Center area.

For this analysis, a FLO-2d model was developed to determine the flow characteristics for 1) the existing conditions, 2) the existing conditions with the remaining CUP area protected by a 5-ft. high berm, and 3) the existing conditions with the remaining CUP area protected by a berm and an elevated pad west of the existing facility to be used for material storage. The last model (Model #3 described above) also included a berm along the south side of the railroad tracks to ensure the post-developed flows overtopping South Lake Road were no more than the pre-developed flows. The pertinent steps for the FLO-2d modelling are as follows:

1. Terrain data from a topographical survey of the project site and the adjacent area was imported into the model.
2. The grid size used for the Meyer Engineering study was used and the program averaged the elevation data within each grid element to assign an elevation to each tile. The grid size used for this model was 50-ft. x 50-ft.
3. The grid element elevations along the railroad tracks on the west side, Santiago Road, and the berm at the existing facility were re-checked and adjusted as necessary to represent actual conditions.
4. Modifications were made to each run of the model to represent the conditions described above. The height of the proposed berm along the railroad tracks was adjusted until the post-developed flows crossing South Lake Road were consistent with the pre-developed flows.
5. The results were imported into CAD to develop exhibits that depict the flow characteristics for each condition.

The third model condition described above was ran a number of times in order to avoid adversely affecting adjacent properties.

5.0 SUMMARY OF RESULTS

As expected, the existing condition model shows shallow flooding south of the site that splits and goes around the existing composting facility. On the east, flows get up to 0.5-ft of depth. On the west, flows are generally in the 0.5-ft to 1-ft range with deeper areas caused by the back-water effects of the berm at the composting facility and more significantly the elevation of the railroad tracks and Santiago Road (see Figure 6).

Figure 7 depicts the flow depths of the existing conditions with a berm added around the entire 100 acre area included in the 2002 CUP. Flow depths are similar to the existing condition model describe above; however, the back-water effect is pushed south and as a result the depths get up to 1.5-ft.

Figure 8 uses the third model condition and elevates a 20+ acre pad west of the existing facility and a proposed berm along the railroad tracks. The configuration of this pad is such that the back-water effect on the south side does not adversely affect the property to the south. The proposed berm along the railroad tracks ranges from 2.15-ft to 4.27-ft. above the existing ground grid element elevation to prevent the post-developed flows from exceeding the pre-developed flows when overtopping South Lake Road. The change in flow depth is not increased by more than 0.75-ft offsite, while most areas have an increase of less than 0.25-ft (see Figure 9). Additionally, an area between the railroad and the proposed elevated pad is left unobstructed to allow the flows to pass. In addition, a strip of property along Santiago Road is lowered allowing the flow to spread out once it reaches the road before over-topping and flowing north as it did previously. Water surface elevations are shown in Figure 10.

In closing, the proposed elevated pad west of the existing facility would meet the County's Floodplain Management standards.

0
3894262 S.F.

EXISTING SYNAGRO COMPOSTING FACILITY

Property Line

Property Line

Property Line

Property Line

N

100 0 200 400
200 50

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

McINTOSH & ASSOCIATES
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2001 WHEELAN COURT
BAKERSFIELD, CALIFORNIA 93309
(661) 834 – 4814

DRAWN BY: MEN/SER
JOB NO. 16-035
DATE: 11/15/16
ISSUED FOR:

BY
REVISIONS
DATE

SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (EXISTING CONDITIONS) FIGURE 6

AutoCAD FILE: 160350501

SHEET 1 OF - SHEETS

0
3894262 S.F.

EXISTING SYNAGRO
COMPOSTING FACILITY

Property Line

Property Line

Property Line

Property Line

5' HIGH BERM

5' HIGH BERM

N

100 0 200 400
200 50

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

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DATE		BY

SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (EX. + ENTITLED CONDITIONS)

FIGURE 7

AutoCAD FILE: 160350501

SHEET 1 OF - SHEETS

EARTHEN BERM

PROPOSED PAD

EXISTING SYNAGRO COMPOSTING FACILITY

SECTION 24, T. 32 S., R. 25 E.

500 ft

℄ SANTIAGO ROAD

Property Line

Property Line

Property Line

Property Line

5' HIGH BERM

5' HIGH BERM

100 0 200 400

200 50

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

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JOB NO. 16-035
DATE: 4/27/17
DRAWN BY: MEN/SER
ISSUED FOR:

BY	DATE	REVISIONS

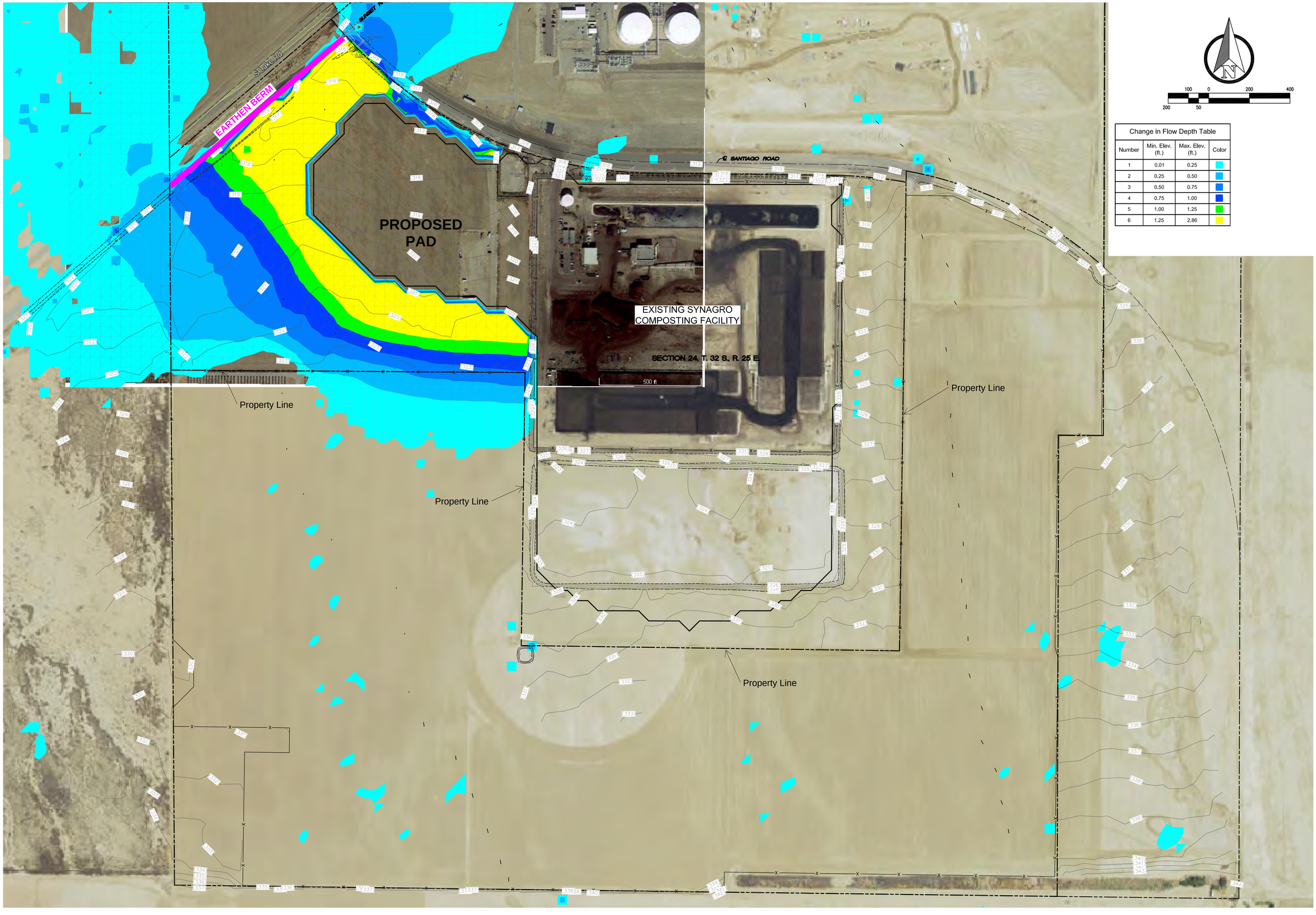
SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (DEV. + ENTITLED CONDITIONS)

FIGURE 8

AutoCAD FILE: 1603SPS01

SHEET 1 OF - SHEETS



N

100 0 200 400

200 50

Change in Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.25	
2	0.25	0.50	
3	0.50	0.75	
4	0.75	1.00	
5	1.00	1.25	
6	1.25	2.86	

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BAKERSFIELD, CALIFORNIA 93309
(661) 834 – 4814

JOB NO. 16-035
DATE: 5/2/17
DRAWN BY: SER
ISSUED FOR:

BY
REVISIONS
DATE

SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTH INCREASE EXHIBIT

FIGURE 9

AutoCAD FILE: 16035f01

SHEET 1 OF - SHEETS

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SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - MAX WATER SURFACE ELEVATIONS

FIGURE 10

AutoCAD FILE: 16035F301

SHEET 1 OF - SHEETS

APPENDIX A

FINAL

CONDITIONS AND FINDINGS FOR CUP ONLY

FOR SOUTH KERN INDUSTRIAL CENTER

FILE: GPA #4, Map #158;
CUP #2, Map #158

APPLICANT: South Kern Industrial Center LLC by Porter-Robertson Engineering and Surveying, Inc.

CONDITIONS OF APPROVAL FOR CONDITIONAL USE PERMIT 2, MAP 158:

(1) This conditional use permit shall not become effective until Kern County Board of Supervisors approval of an amendment to the Non Disposal Facility Element of the Kern County and Incorporated Cities Integrated Waste Management Plan.

(2) All necessary building permits must be obtained.

(3) The method of water supply and sewage disposal shall be as required and approved by the Kern County Environmental Health Services Department.

(4) Fire flows and fire protection facilities shall be as required and approved by the Kern County Fire Department.

(5) A plan for the disposal of drainage waters originating on site and from adjacent road rights-of-way shall be approved by the Kern County Engineering and Survey Services Department/Floodplain Management Section, if required. Easements or grant deeds shall be given to the County of Kern for drainage purposes or access thereto, as necessary.

*(6) If pesticide contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes are uncovered in the project area during grading or construction activities, then the County shall be notified. If the site is identified by the Kern County Planning Department as a potential hazardous site, then a Phase 1 Site Study shall be performed by a qualified consultant and submitted to the Planning Department by the project applicant. If any of the aforementioned hazardous substances are found on the project site, then a site remediation plan shall be prepared by the project applicant that would: (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards; and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, State, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the County. In accordance with Occupational Health and Safety Administration requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the County) for the protection of workers and the public. The developer shall employ licensed brokers or registered hazardous waste treatment engineers to handle its contaminated soil disposal needs, if any exist.

*(7) Construction activities shall be discontinued during first stage smog alerts. Construction and grading activities shall not be allowed during first stage ozone alerts. First stage ozone alerts are declared when the ozone level exceeds 0.20 ppm (1-hour average).

EXHIBIT D

(8) During all on-site grading and construction activities, adequate measures shall be implemented to control fugitive dust.

(9) All signs shall be approved by the Director of the Kern County Planning Department prior to installation.

*(10) Construction during nighttime hours shall be minimized. Kit foxes are more active and, therefore, more vulnerable to vehicle or equipment-induced injury during nighttime hours.

(11) All areas used for loading, unloading, mixing, composting, storaging of composted material, and impoundment of water originating on the site shall be underlain by impervious materials to prevent infiltration of liquid into the groundwater. Type of impervious material, installation method, depth, etc., shall be as specified by the California Regional Water Quality Control Board.

(12) The development shall comply with any requirements of the San Joaquin Valley Unified Air Pollution Control District.

*(13) All equipment storage and parking during facility construction shall be confined to the construction site or to previously disturbed off-site areas that are not habitat for listed species.

To prevent entrapment of endangered species or other wildlife species during any pipeline construction, escape ramps (consisting of loose earth deposited in the trench or pit or wooden planks) shall be erected by the project contractor to facilitate escape by any wildlife species that inadvertently fall into the open trench or pit. Trenches or pits shall also be inspected for entrapped wildlife each morning prior to the onset of construction activities and immediately prior to the end of each construction work day. Before filling open trenches and pits, the project contractor shall closely inspect these areas for entrapped animals. Any animal discovered shall be allowed to escape before construction activities resume or be moved from the open trench or pit by a qualified biologist and allowed to escape unimpeded.

The infrastructural and mechanical improvements relating to the specific activities within the project area shall be carefully designed so as to avoid the inadvertent trapping of wildlife. Any pipe segments with diameters of four or more inches shall be taped closed. Such pipe segments shall be regularly inspected for kit fox use prior to closure by welding to ensure that kit foxes are not inadvertently trapped.

(14) Should any archeological or historic resources be unearthed during construction, work shall be halted in the area of the discovery until the finds can be assessed by a qualified and certified archeologist approved by the County of Kern so that appropriate mitigation measures to preserve the find can be carried out.

(15) If archeological sites are found on the project site, the archaeologist shall report evidence to the California Archaeological Inventory Information Center South Central Office.

(16) Within 14 days prior to the commencement of grading or other site improvements, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 29, the developer shall submit a letter to the Planning Department prepared by a qualified biologist stating that the specific site has been resurveyed for kit fox dens and

potential dens and shall include findings and recommendations of the survey. The developer shall be responsible for ensuring that all appropriate actions be taken in the event that a kit fox den has been identified during the resurvey. The developer shall consult with the U. S. Fish and Wildlife Service and the State Department of Fish and Game, if the destruction of a kit fox den is considered unavoidable.

*(17) Prior to issuance of a permit to construct a septic system, an engineered septic system design shall be submitted to the Kern County Environmental Health Services Department for review. The design shall adequately address and mitigate the issue of shallow groundwater and septic installation within Flood Zone A and shall incorporate the recommendations included in the "Field Exploration and Sewage Disposal Feasibility Investigation," dated July 31, 2001 prepared by Krazan and Associates. A dry sewer shall also be installed in order to facilitate the community system, once it is constructed. Prior to final approval, engineered as-built plans shall be submitted to the Environmental Health Services Department verifying proper installation according to approved plans.

(18) Prior to issuance of building or grading permits, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 28, the Planning Department and the Engineering and Survey Services Department/Building Inspection Section shall review all development proposals to ensure consistency with the Geologic Hazards Investigation for the SKIC design criteria as required for Seismic Risk Zone 4, and all other applicable standards.

*(19) Prior to issuance of building or grading permits, construction plans for the 100-acre organic recycling facility shall incorporate the recommendations found in the Receive and Discharge Analysis, dated June 1, 2001, prepared for the project by Porter-Robertson Engineering and Surveying, Inc. and clarified with additional information in the Addendum dated July 31, 2002.

(20) Prior to issuance of building or grading permits, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 30, the developer shall submit proof of their consultation with the California Department of Fish and Game (CDFG) and the U. S. Fish and Wildlife Service (USFWS), including response letters from those agencies. The Planning Department shall ensure that all resulting requirements of the CDFG and USFWS, pursuant to Section 2081 of the Fish and Game Code and the Endangered Species Act, are adhered to.

*(21) Prior to issuance of building permits, the developer shall incorporate energy-conservation measures in the planning and construction of their proposed sites. Measures shall include, but shall not be limited to, the following: the use of low-sodium lighting fixtures for the parking areas and building exteriors; the use of fluorescent lighting fixtures; and efficient HVAC systems as part of the final building plan approved. All plan area developments shall adhere to the construction requirements pursuant to the applicable building type specifications as required by the Kern County Engineering and Survey Services Department/Building Inspection Division. Compliance with these requirements will reduce unnecessary energy consumption.

*(22) Prior to issuance of building and grading permits, construction plans for the organic recycling facility shall incorporate the recommendations found in the Geotechnical Engineering Investigation and Soil Absorption Evaluation, prepared for the project by Krazan & Associates to minimize hazards arising from the potential soil liquefaction. Foundations and structures

shall be designed with consideration of the potential hazards related to liquefaction as outlined in the Geotechnical Engineering Investigation.

*(23) Prior to issuance of building and grading permits, construction plans shall incorporate the recommendations found in the "Geotechnical Engineering Investigation and Soil Absorption Evaluation," prepared for the project by Krazan & Associates to minimize hazards arising from potential unstable soil, lateral spreading, subsidence and collapse. Foundations and structures shall be designed with consideration of the potential hazards related to potential unstable soil, lateral spreading, subsidence and collapse as outlined in the Geotechnical Engineering Investigation.

*(24) Prior to issuance of building permits, the applicant shall specify on the building plans low nitrogen oxide (NOX) emitting and/or high efficiency water heaters where appropriate.

*(25) Prior to issuance of building permits, a landscape and irrigation plan shall be submitted to the Kern County Planning Department for approval. The landscape plan shall include trees on the berm surrounding the facility.

*(26) Prior to issuance of building permits, building plans shall include placement of buildings on a north/south plane and increased insulation beyond Title 24 requirements.

*(27) Prior to issuance of grading or building permits, the project applicant shall provide on-site secured parking areas for construction equipment and personnel.

(28) The applicant shall submit a revised plot plan with the parking and maneuvering areas clearly delineated. Parking spaces shall be a minimum of 9 feet by 20 feet in size and shall function independently of one another.

(29) Prior to commencement of operations, access to the facility from Santiago Road shall be a paved major industrial private road approach connection in accordance with Kern County Roads Department.

(30) Prior to commencement of operations, the developer shall be responsible for construction of railroad crossing at Santiago Road in accordance with plans approved by the Kern County Roads Department, the California Public Utilities Commission, and the railroad operator.

(31) Prior to commencement of operations, the property owner shall record an irrevocable offer of dedication of road right-of-way to the County of Kern of all subject property within 55 feet of the centerline of Santiago Road, and including an expanded intersection with South Lake Road, including a 20-foot by 20-foot corner cutoff at intersecting streets, for major highway alignment purposes. Prior to recordation, said offer of dedication shall be reviewed and approved by the Rights-of-Way Section of the Kern County Roads Department.

(32) Prior to commencement of operations, the following improvements shall comply with requirements of the Kern County Roads Department and shall be accomplished at no cost to the County and by encroachment permit issued by the Roads Department Director.

(a) All of subject property within 55 feet of the centerline of Santiago Road shall be improved to Type B Subdivision Standards, major highway, amended to provide

base and pavement tie to existing pavement if constructed to secondary highway or major highway standards. Existing pavement shall be saw cut at match point. Santiago Road shall be fully constructed between its intersection with South Lake Road and the east border of Phase I of the Specific Plan.

(33) Prior to commencement of operations, the project operator shall obtain and comply with all permits required by State and local agencies, including, but not limited to, permits from the California Integrated Waste Management Board, California Regional Water Quality Control Board, and the Kern County Environmental Health Services Department including, but not limited to, a Report of Composting Site Information which will require revision of the site plan to indicate (1) a lane width of at least ten feet between storage piles or compost piles and between such piles and the toe of the perimeter berm to facilitate access; and (2) the height of storage piles or compost piles shall be limited to 15 feet.

(34) Prior to commencement of operations, the applicant shall provide for approval by the Kern County Environmental Health Services Department, San Joaquin Valley Unified Air Pollution Control District, and Kern County Planning Department, a closure plan detailing post-closure maintenance of the site in the case of voluntary closure or permit revocation.

(35) Prior to commencement of operations, the applicant/operator shall submit a written estimate of the cost to remove all stockpiled material upon site closure for review and approval by the Kern County Planning Director. Subsequent to approval of this estimate, the applicant/operator shall submit a financial assurance instrument for approval by the Planning Director to guarantee site closure. The financial assurance document may take the form of a surety bond, irrevocable letter of credit, or a trust fund.

(36) Prior to commencement of operations, all local, State, and federal permits shall be approved before any sludge deliveries are received on site.

(37) Prior to commencement of operations, the applicant shall enter into a Compliance Agreement with the Kern County Agricultural Commissioner related to the prevention of fruit fly infestation.

(38) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 12, street improvements are to conform to Type B Subdivision Standards of the Kern County Land Division Ordinance as modified by the Circulation Element of the South Kern Industrial Center Specific Plan.

(39) Prior to commencement of operations, a Report of Waste Discharge shall be submitted to the California Regional Water Quality Control Board. A copy of the Waste Discharge Requirements shall be submitted to the Planning Department.

(40) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 26, widening for full left-turn channelization, including tapers and transitions as approved by the Kern County Roads Department, shall be required on South Lake Road at the Santiago Road intersection. Improvements in existing County-maintained road right-of-way shall be done under encroachment permit issued by the Roads Department. Improvements to be done in nonCounty-maintained road right-of-way shall be done under approved improvement plans. If prior to

occupancy, the developer has not completed all required work at the Sunset Railroad Crossing and has done everything in his power to accomplish this goal, then the developer shall enter into an appropriate agreement with the County to assure completion of the required improvements.

(41) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 27, it may be necessary to elevate the roads in order to assure that parallel roadside drainage is outside the County road right-of-way as determined by the Kern County Roads Department.

(42) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 41, the applicant shall request that the Kern County Board of Supervisors consider an incentive program for employers throughout the County to encourage the voluntary implementation of trip reduction programs.

*(43) Prior to commencement of operations, a Transportation Management Agency (TMA) shall be established to serve plan area businesses. The TMA shall provide vanpool service to the areas which contain the most concentrated numbers of plan area employees. The TMA shall publicize and encourage carpooling/vanpooling, update match lists, introduce prospective rideshare participants, and generally assist employees in forming and maintaining ridesharing arrangements. In addition, employees shall offer incentives to carpool/vanpoolers with the closest, most convenient parking spaces in large lots, direct cash payments to qualifying participants, accrual of one "bonus" vacation day for every 100 workdays in a carpool/vanpool, and company discounts for various goods and services.

(44) Prior to commencement of operations, the developer shall construct Santiago Road from its intersection with South Lake Road to the easterly boundary of Phase I of the South Kern Industrial Center Specific Plan, in accordance with the requirements of the South Kern Industrial Center Specific Plan and the Kern County Roads Department.

*(45) Prior to commencement of operations, the developer shall be responsible for upgrading automatic protection at the Sunset Railroad Crossing in accordance with Standard No. 9-A of the Public Utilities Commission General Order, if required by the Public Utilities Commission.

*(46) Prior to commencement of operations, where the project abuts agricultural lands, the developer shall reduce the potential for spray drift impacts associated with the aerial spraying of pesticides by establishing a 300-foot buffer zone between structures proposed for human use and the plan area boundary, or through an alternative measure acceptable to the owner of the abutting agricultural property. Examples of alternative measures which may be acceptable include, but shall not be limited to, the following: ground rig pesticide application within an established buffer zone; no pesticide use within an established buffer zone; aerial spraying during non-work hours; and coordination with businesses which operate continuously to determine the most appropriate times for aerial spraying. These measures would minimize interface conflicts between the industrial and agricultural uses. The sufficiency and adequacy of the buffer zone, or alternative measure, shall be approved by the Kern County Agricultural Commissioner's Office and the Kern County Planning Department.

*(47) Prior to commencement of operations, the operator of the organic waste recycling facility shall install and maintain an automated weather station within one mile of the facility or as

approved by Kern County Environmental Health Services Department to track atmospheric conditions for the purpose of odor control and compost management.

*(48) Prior to commencement of operations, the applicant shall request the Kern County Roads Department to post speed limit signs for all established roadways. Appropriate speeds shall be set for all future established roadways.

*(49) Prior to commencement of operations, operators shall equip all construction/earth moving equipment, processing equipment, and trucks with current EPA/CARB approved control devices (catalyst/traps) to reduce particulate and NOx emissions.

*(50) Prior to commencement of operations, the applicant shall request the San Joaquin Valley Unified Air Pollution Control District's Heavy Duty Engine Incentive Program to obtain emission reductions from older engines by replacing such engines with new, cleaner, fuel-efficient engines.

*(51) Prior to commencement of operations, the applicant shall request the Board of Supervisors adopt an incentive program for employers throughout the County to encourage the voluntary implementation of trip reduction programs. Incentives offered could include reductions in parking requirements, street improvement requirements, developer fees, business license fees, permit fast tracking, among others.

(52) Prior to final occupancy approval, the developer shall pay 14 percent of the cost to reconstruct Millux Road from Hill Road to Old River Road and 16 percent of the cost to rehabilitate (overlay) Hill Road and South Lake Road from Millux Road to the project site. These percentages are the developer's proportionate share of these improvements, based on the traffic analysis for the South Kern Industrial Center Specific Plan (Part 1 and Part 2), the analysis for the Organic Recycling Facility, and a recent Kern County Roads Department truck volume study on South Lake Road, Hill Road, and Millux Road. Actual cost to the developer will be determined by the Kern County Roads Department with further engineering analysis.

(53) Prior to final occupancy approval, **the following conditions shall be verified by the building inspector and shall be continuously maintained while this permit is active:**

(a) The sump site shall be wholly enclosed within a six-foot-high chain link fence constructed with redwood screening slats or as approved by the Kern County Engineering and Survey Services Department.

(b) The sump site shall be maintained free of debris and weeds at all times.

(c) Site illumination shall be directed away from adjoining properties and public roads.

(d) A berm of five feet in height shall be constructed around the facility for flood protection in accordance with the flood study prepared for the project.

(e) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 3, parking and maneuvering areas shall be paved with a minimum of two inches of A.C. paving.

(f) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 4, the applicant shall provide off-street parking per Kern County Zoning Ordinance requirements.

(g) The applicant shall notify the Planning Department immediately when composting activities commence.

(h) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 18, address signs and building numbers shall be installed for easy identification by emergency response personnel.

(54) **The property owner shall continuously comply with the following conditions of approval during implementation of this permit:**

(a) The developer shall provide on-site vehicle holding areas for tractor-trailer units delivering materials for composting. No vehicle "stacking" shall be permitted on Santiago Road.

(b) The site shall be closed to the general public, and that portion of the site occupied by the composting operation, including any sumps, shall be wholly enclosed within a six-foot-high chain link fence.

(c) A facility employee shall be present when incoming waste shipments are received. The facility shall be enclosed by a fence and gate and shall be locked when no facility employees are present.

(d) No manifested shipments of hazardous waste materials shall be received.

(e) The composting operation shall be conducted in such a manner that a nuisance or public health hazard does not result from noise, odors, dust, insects, or other causes as determined by any responsible public agency.

(f) Trucks shall be washed down before leaving the site to assure that no sludge, mud, or debris will be tracked onto public roads. Wash-down water shall be contained and disposed of in accordance with requirements of the California Regional Water Quality Control Board or the Kern County Environmental Health Services Department.

(g) The composting operation shall be limited to processing a maximum of 400,000 wet tons of organic waste annually, in accordance with the applicant's project description. Any expansion of the capacity involved in the operation may require application for a new conditional use permit and compliance with regulations then in effect if, in the judgement of the Planning Director, the proposed expansion constitutes a significant expansion.

(h) Finished composted materials shall not be stored on the site for more than seven days following completion of composting.

(i) All trucks making deliveries to the project shall be covered in such a manner as to prevent the blowing or loss of any material being delivered to or from the composting facility.

(j) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 8, all residential dwellings shall be prohibited.

(k) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 39, operators shall equip all construction or earth moving equipment, processing equipment, and trucks operating on the project site with current EPA/CARB approved control devices.

(l) Greenwaste loads shall be certified disease-free and pest-free. Certification by a lab shall be attached to manifests. The need for such certification shall be specified in any agreements between the operator of the facility and providers of greenwaste materials to be used at the facility.

*(m) All internal combustion engine driven equipment shall be properly maintained and well tuned according to manufacturer's specifications.

*(n) All future employees of the project area shall be notified of the occurrence of the San Joaquin kit fox and Tipton kangaroo rat within the general project area. Employees shall also be notified to exercise caution when commuting to the project site in order to avoid harm to these and other wildlife species.

*(o) The applicant shall ensure that refuse contractors remove trash at regular intervals and shall be required to contain all trash onsite in appropriate trash receptacles to reduce attractiveness to San Joaquin kit foxes that may irregularly forage in this area.

*(p) Any future rodent control programs which are initiated by project area developers and businesses shall be undertaken in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in order to prevent harm to listed wildlife species that may occur in the site vicinity.

*(q) The applicant shall prepare and maintain an emergency procedures manual to be in effect at all times. The preparers of the manual shall coordinate with local hospitals and private emergency medical service providers.

*(r) The developer shall warn employees about the possible exposure to agricultural chemicals. Warnings would include copies of Material Safety Data Sheets on agricultural chemicals regularly used in the area and the possible length and extent of exposure to each material.

*(s) Project operators shall provide employee subsidies at existing child-care facilities in Bakersfield and Taft, which would provide vanpool "park and ride" starting points.

*(t) All operating equipment, processing equipment, and trucks shall be equipped with the appropriate EPA approved Tier I or Tier III model year engines, when such equipment is available.

*(u) Contractors and operators shall be required to limit engine idling time to 15 minutes on all construction or earth moving equipment, processing equipment, and trucks.

(55) All project truck traffic shall be limited to South Lake Road (east of project site), Hill Road, and Millux Road.

(56) The facility shall be required to accept no less than 10 percent of all bulking agents from local municipal greenwaste sources. Local municipal agency sources include incorporated cities, special districts, or County agencies within Kern County.

(57) All residual waste generated by the facility shall be disposed of at a Kern County solid waste facility designated by the Director of the Kern County Waste Management Department.

(58) All incoming wastes or materials to be composted shall be tracked by jurisdiction and reported by tonnage and percentage to the Director of the Kern County Waste Management Department on a quarterly basis no later than 15 days following the end of each quarter.

(59) Development shall be in substantial conformity with the approved plan and the Aerated Static Pile system shall be employed as the approved composting method.

(60) This permit shall become null and void if the use authorized has not been activated within a one-year period of time of the effective date for approval of said permit **(the date of approval of the amendment to the Non Disposal Facility Element)**, unless an extension of time has been granted by the decision-making authority, upon written request before expiration of the one-year period.

* DENOTES MITIGATION MEASURE

FINDINGS FOR CONDITIONAL USE PERMIT 2, MAP 158:

(1) The applicable provisions of the California Environmental Quality Act, the State CEQA Guidelines, and the Kern County Guidelines have been duly observed in conjunction with said hearing in the consideration of this matter and all of the previous proceedings relating thereto.

(2) This project is recommended for approval despite the existence of certain significant environmental effects identified in said Final Supplemental Environmental Impact Report, and this Commission recommends the Board of Supervisors make and adopt the findings with respect to each thereof set forth in Exhibit A, appended hereto and made a part hereof by reference, pursuant to Section 15091 of the State CEQA Guidelines (Title 14, Administrative Code) and Section 21081 of the Public Resources Code and declares that it considered the evidence described in connection with each such finding in Exhibit A and that such evidence is substantial and supports such finding.

This Commission acknowledges that approval of this project will produce certain environmental impacts which cannot be mitigated and, in accordance with Section 15093 of the State CEQA Guidelines (Title 14, Administrative Code) hereby recommends the Board of Supervisors adopt a Statement of Overriding Considerations which summarizes the reasons why this project, despite certain environmental impacts, has been approved.

Said Final Supplemental Environmental Impact Report is complete and adequate in scope and has been completed in compliance with the California Environmental Quality Act and with the State CEQA Guidelines and the Kern County Guidelines for implementation thereof.

(3) The effect upon the environment of such project and the activities and improvements which may be carried out thereunder will not be substantial and will not interfere with maintenance of a high-quality environment now or in the future. Mitigation measures have been incorporated from the Final Supplemental Environmental Impact Report as conditions of approval, and the adopted Mitigation Measure Monitoring Program specifies the required steps to satisfy each mitigation measure.

(4) The proposed use is consistent with the purpose of the applicable district or districts.

(5) The proposed use meets the minimum requirements of this chapter applicable to the use and complies with all other applicable laws, ordinances, and regulations of the County of Kern and the State of California.

(6) The proposed use is listed as a use subject to a conditional use permit in the South Kern Industrial Center Specific Plan, as amended.

(7) The proposed use is consistent with the goals and policies of the South Kern Industrial Center Specific Plan by locating "heavy" uses in a remote location away from sensitive urban areas to reduce land use conflicts.

(8) The proposed use, as conditioned, will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

(9) Approval of this project will produce composted material that complies with County Ordinance G-6638, regulating the land application of biosolids.

(10) A policy of the Land Use, Open Space and Conservation Element of the Kern County General Plan requires that the proposed 100-acre organic waste recycling facility be designated Map Code 3.4 (Solid Waste Facilities). Although the General Plan contains no siting criteria for an organic waste recycling facility, adequate protective measures are proposed in conjunction with the conditional use permit, whereby designating the proposed 100-acre organic waste recycling facility as Map Code 3.4 would be appropriate.

(11) Approval of this project and certification of the Final Supplemental Environmental Impact Report shall not be considered operative, vested, or final until such time as an agreement is made and entered into between the County of Kern and the applicant, where the applicant indemnifies the County from liability or loss connected with the various project approvals, including all approvals related to actions taken this day, or any later project-related approval involving a discretionary act.

(12) This Commission has found and determined that the Final Supplemental Environmental Impact Report (Final SEIR) prepared for this project has been completed in compliance wit the California Environmental Quality Act and the State CEQA Guidelines and the County EIR Guidelines, and that this Commission has reviewed and considered the information contained in said Final SEIR before making its decision on the herein-mentioned project. This

Commission has made findings pursuant to Sections 15091 and 15093 of the California Environmental Quality Act which are attached hereto and made a part hereof.

(13) The fee required by Fish and Game Code Section 711.4 has been previously paid for the processing of the Final Supplemental Environmental Impact Report for this project, and under Section 711.4(g), we find that the project is not tiered or phased as set forth in Sections 15385 and 15165, respectively, of the State CEQA Guidelines, and separate environmental documents or review by the Department of Fish and Game is not required, and further, based on the public interpretation of these statutes by the Department of Fish and Game staff, find this approval and related Notice of Determination exempt from the payment of the otherwise applicable fee.

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APPENDIX B

These files as provided under separate cover and are available at the Kern County Planning and Natural Resources Department

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Attachment 2

Trinity Consultants

MEMORANDUM

To: Matt Crow, San Joaquin Valley Air Pollution Control District

cc: Brian Cataldo, Synagro

Brent McManigal, Gresham Savage Nolan & Tilden, PC

From: Matthew Daniel

Date: January 7, 2022

RE: Draft Environmental Impact Report for South Kern Compost Manufacturing Facility (Modification to Conditional Use Permit 2, Map #158) – Revised Health Risk Assessment

San Joaquin Valley Air Pollution Control District (SJVAPCD) has reviewed the Draft Environmental Impact Report associated with the proposed modification of the subject CUP and the SJVAPCD has requested modification to the Health Risk Assessment (HRA) to include diesel particulate matter from construction activities and incorporation of the biosolid toxic profile for the portion of particulate matter (PM) and volatile organic compounds (VOC) attributed to biosolids.

Diesel particulate matter (DPM) associated with construction activities were not used in the original HRA[1] as the Project construction activities are limited to six-months and were deemed to not contribute significantly to the health risk from the Project. As requested, a revised HRA was conducted to include the DPM from construction activities.

The decision to use green waste for 100 percent of the emissions above baseline in the original HRA[1] was determined to be conservative since the hazardous air pollutants (HAPs) associated with green waste will result in higher health risks than HAPs associated with biosolids. However, a revised HRA was completed to demonstrate that this would be the case. The revised HRA analyzed two scenarios, one with 100 percent biosolids HAP emissions and the other with 100 percent green waste HAP emissions.

This memorandum provides the revised HRA's methodology and results to include the requests of the SJVAPCD.

Predicted Health Risk Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

[1] Trinity Consultants, Air Quality Impact Analysis Synagro South Kern Compost Manufacturing Facility Project (August 2019 revised July 2020), 4-8-4-11.

The proposed Project would result in emissions of HAPs and would be located near existing residents and workers; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime for operational emissions and six-month period for construction emissions. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. Potential HAPs associated with the Project are diesel particulate matter from construction equipment, off-road equipment and on-road vehicles and fugitive emissions from the composting activities.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View) was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Since the incremental emissions of diesel particulate matter (DPM) from operational off-road equipment and on-road vehicles will decrease over time, they were not modeled in this HRA. Operational HAPs emitted from composting and material handling operations were analyzed in two scenarios. The first scenario estimated HAPs as a fraction of VOCs from composting using a green waste compost speciation profile from SJVAPCD. The second scenario estimated HAPs as a fraction of VOCs from composting using a biosolids compost speciation profile from SJVAPCD. In addition, ammonia emissions from composting were also evaluated in both scenarios of the HRA. Similarly, HAPs emitted from material handling of compost were estimated as a fraction of PM_{10} emissions from material handling operations using a green waste compost dust speciation profile from SJVAPCD in the first scenario and a biosolid compost dust speciation profile from SJVAPCD in the second scenario. The construction, composting, and material handling activities were modeled as area sources. Unit emission rates for the area sources of 1 g/sec divided by the area of the source were input into AERMOD.

Discrete receptors were placed on houses, businesses and potential agricultural workers within close proximity of the Project site. A total of 59 discrete off-site receptors were analyzed. Per SJVAPCD policy, elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Bakersfield monitoring station, calendar years 2013 through 2017 was input to AERMOD. This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

The files generated in AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2). ADMRT post-processing was used to assess the potential for excess cancer risk and non-cancer chronic and acute effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). ADMRT site parameters were set for mandatory minimum exposure pathways for

carcinogenic risk. The deposition rate was set to 0.02 m/s. Risk reports were generated for carcinogenic risk, non-carcinogenic chronic risk and non-carcinogenic acute risk. Site parameters are included in the HARP output files.

Total cancer risk was predicted at each receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}) and 1.0, respectively for the proposed Project in either HRA scenario. The PMIs, are identified by receptor location and risk, and are provided in **Table 1 and 2**. The electronic AERMOD and HARP2 output files are provided in **Attachment B**.

Table 1 – Scenario 1 Potential Maximum Impacts Predicted By HARP

	Maximum Lifetime Excess Cancer Risk	Maximum Non-Cancer Chronic Hazard Index	Maximum Non-Cancer Acute Hazard Index
Construction	3.39E-07	5.24E-02	0.00E+00
Operational	1.26E-06	1.89E-01	5.23E-01
Total	1.60E-06	2.41E-01	5.23E-01
Receptor #, Name	13, Ag Worker	13, Ag Worker	12, Ag Worker
UTM Easting (m)	295219.37	295219.37	295216.92
UTM Northing (m)	3889684.04	3889684.04	3889592.53
UTM = Universal Transverse Mercator *Note: Scenario 1 Operational Fugitive Emissions are from green waste speciation profile			

Table 2 – Scenario 2 Potential Maximum Impacts Predicted By HARP

	Maximum Lifetime Excess Cancer Risk	Maximum Non-Cancer Chronic Hazard Index	Maximum Non-Cancer Acute Hazard Index
Construction	3.46E-07	5.24E-02	0.00E+00
Operational	7.61E-08	1.68E-01	3.56E-01
Total	4.20E-07	2.21E-01	3.56E-01
Receptor #, Name	14, Ag Worker	13, Ag Worker	12, Ag Worker
UTM Easting (m)	295221.13	295219.37	295216.92
UTM Northing (m)	3889743.28	3889684.04	3889592.53
UTM = Universal Transverse Mercator *Note: Scenario 2 Operational Fugitive Emissions are from biosolid speciation profile			

Conclusions

As shown above the first scenario using the green waste speciation profile resulted in higher risk for cancer, chronic and acute than the second scenario that used the biosolid speciation profile. Therefore, any percentage of biosolids mixed with green waste would only reduce the risk from the 100 percent green waste scenario. Additionally, the inclusion of construction activities DPM did not have a significant impact on the Project's health risk.

As shown above in **Tables 1 and 2**, the maximum predicted cancer risk for the proposed Project is 1.60 in a million. The maximum chronic non-cancer hazard index for the proposed Project is 0.241. The maximum acute non-cancer hazard index for the proposed Project is 0.523. Since the PMI remained below the significance threshold for cancer, chronic, and acute risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be less than significant based on the following conclusions:

1) Potential carcinogenic risk from the proposed Project is *below* the significance level of twenty in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.
3) The hazard index for the potential acute non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant* and would not change the findings in the original HRA.

Should you have any questions or require further clarification of any aspect of this memo or the proposed impacts to health risk, please contact Matt Daniel at Trinity Consultants.

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ATTACHMENT A: EMISSION ESTIMATION WORKSHEETS

These files are provided electronically under separate cover

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ATTACHMENT B: AERMOD AND HARP2 ELECTRONIC FILES

These files are provided electronically under separate cover

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RECEIVE-DISCHARGE ANALYSIS

for

Compost Facility Expansion
(APN 220-110-70)

Prepared for:

South Kern Compost Manufacturing Facility
P.O. Box 265
Taft, CA 93268

Prepared by:

McINTOSH & ASSOCIATES
© 2016

2001 Wheelan Court
Bakersfield, California 93309
Contact: Sean Reed, R.C.E. 64620

MAY 2017

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LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

This report has been prepared to support the expansion of the existing South Kern Compost Manufacturing Facility located southwest of Bakersfield in Kern County (see Figures 1 & 2). The objective of this report is to model the 100-year flooding patterns to determine the useable area west of the existing facility without adversely affecting the neighboring properties. This report will:

- Give an overview of the property
- Discuss the proposed use of the property
- Describe the upstream watershed
- Explain the hydrology and hydraulic methodology
- Provide a summary along with exhibits showing the pre- and post-developed flow depths, a composite that depicts the differences, and the post-developed water surface elevations.

2.0 PROJECT BACKGROUND

The proposed project site (APN 220-110-70) is located southwest of Bakersfield and east of Taft, CA, along South Lake Road. It's located in Section 24, Township 32 South, Range 25 East. The parcel is bound on the north by Santiago Road, on the east and south by a recently constructed solar facility, and on the west by a railroad spur running parallel with South Lake Road. The gross area of the parcel is approximately 155 acres. The first phase of the composting facility uses about 50 acres of the 100 acres that was approved by Kern County with a Conditional Use Permit (CUP) in 2002 (see Appendix A & Figure 3). The remaining unused area of the parcel has been left in its natural condition with the exception of an area south of the first phase of the composting facility that was used as a borrow site for creating a 5-ft high berm around the facility. The approved Receive & Discharge study prepared by Porter-Robertson Engineering for the project showed the entire 100 acre portion of the entitled site protected by a 5-ft. high berm with a v-shaped berm south of the property line to split the run-on flows around the project (see Figure 4).

The natural ground in the area generally slopes north, northwest at an average slope of 0.5%. Existing elevations within the parcel range from approximately 333-ft. to 315-ft. above mean sea level with a mean elevation of 326'. Run-on flows for this parcel are generally from upland areas; more specifically the northern side of the San Emigdio Mountains. The contributing watershed ultimately ends up in the Buena Vista Lake Bed, north of the site.

Additionally, the Federal Emergency Management Agency (FEMA) has established flood insurance risk zones throughout Kern County in accordance with the National

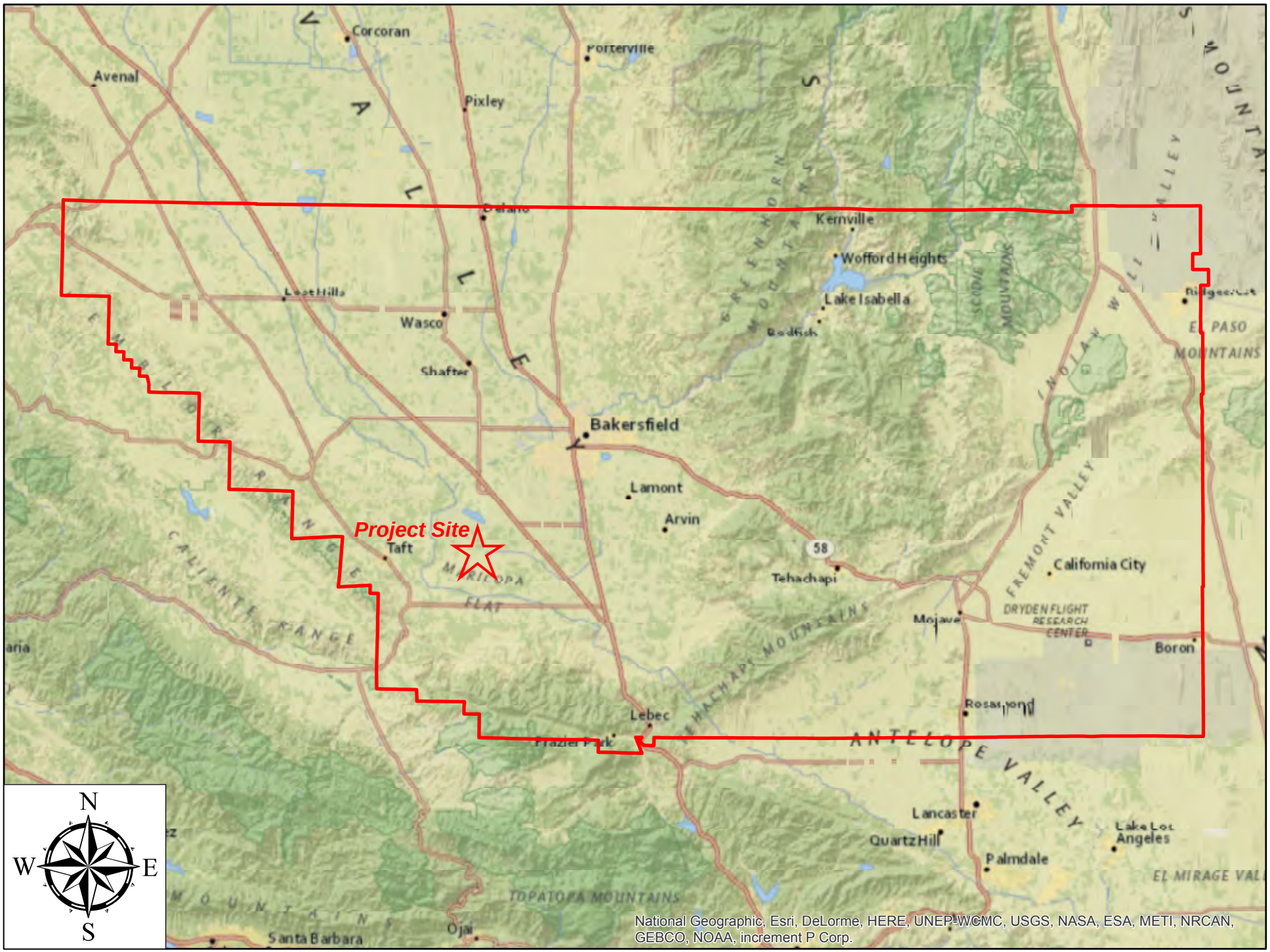
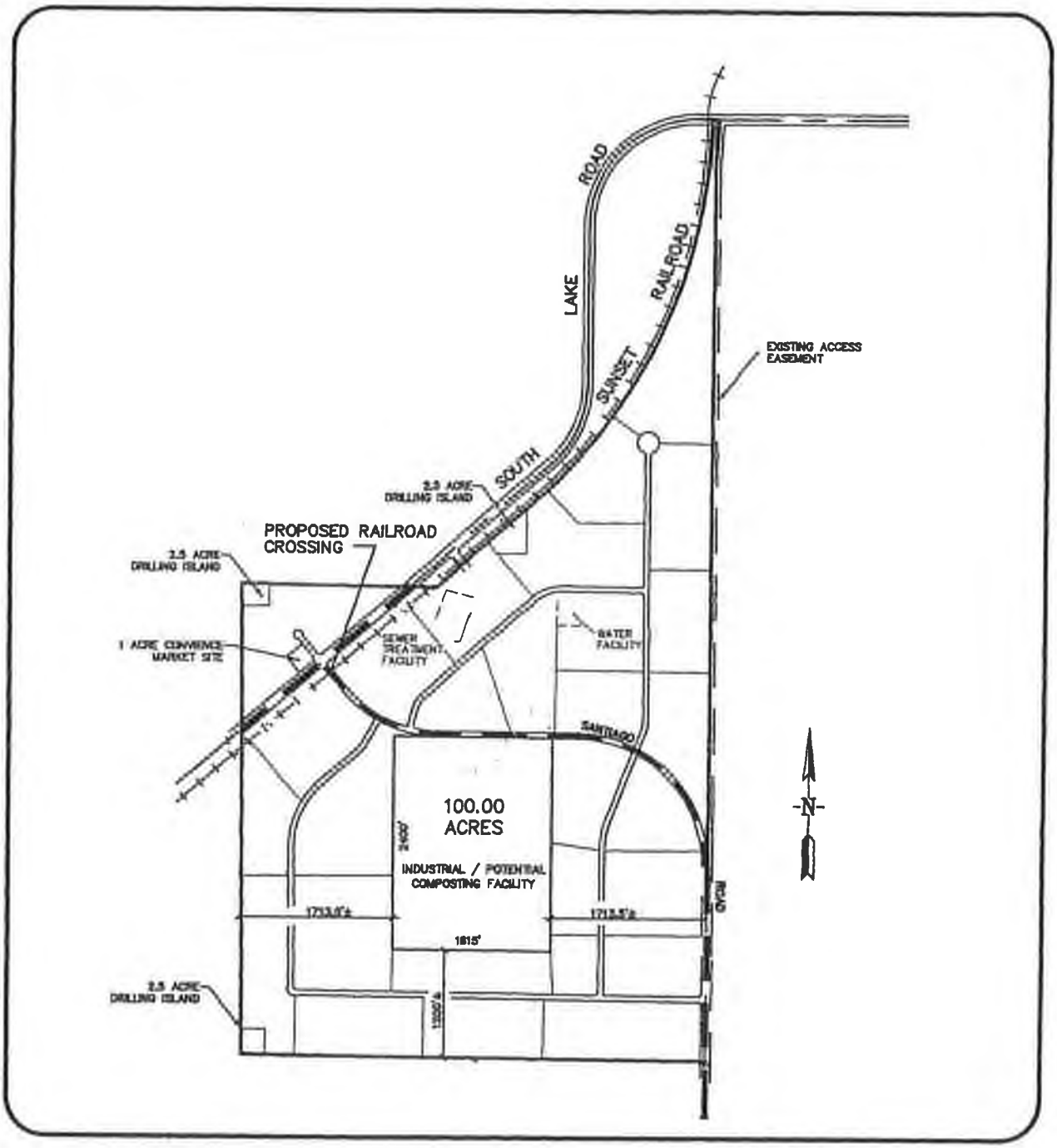


Figure 1: Regional Map

Figure 2: Project Site

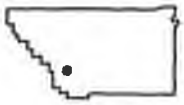


SPECIFIC PLAN

CONCEPTUAL PLAN

KERN COUNTY
GENERAL PLAN
KERN COUNTY BOARD OF SUPERVISORS

COUNTY LOCATION MAP



T32S,R25E,
M.D.B.M.

South Kern Industrial Center

Figure 3 - Specific Plan Exhibit

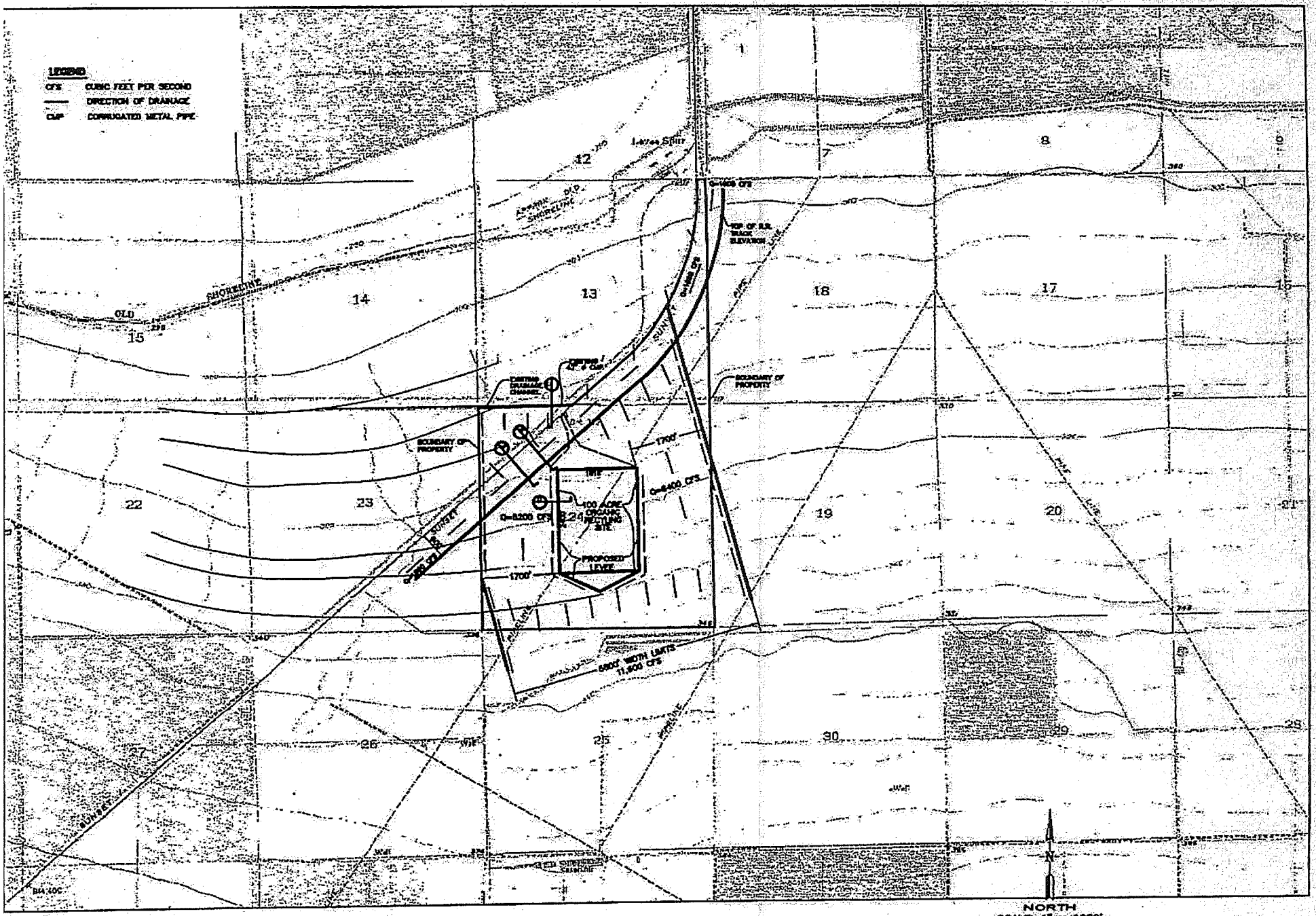


Figure 4: Porter-Robertson Flood Analysis Map

Flood Insurance Program (NFIP) (see Figure 5). This property is located within a FEMA Special Flood Hazard Area (SFHA) with a Zone 'A' designation. Because detailed hydraulic analyses are not performed to define these areas, no Base Flood Elevations (BFEs) are shown in this zone.

3.0 REGULATORY REQUIREMENTS

The Kern County Development Standards (or the Standards), Division Four "Standards for Drainage", establishes minimum requirements for addressing waters generated by storms to provide reasonable levels of protection for life and property, and the maintenance of necessary access to property or passage of the traveling public on public highways. In general, the mitigation measures for the protection of life and property and the maintenance of emergency vehicle access are based on the Capital Storm Design Discharge (CSDD). This is commonly referred to as the 100-year storm.

The Kern County Code of Building Regulations (or the Code), Chapter 17.48 "Floodplain Management", establishes minimum requirements for addressing flood hazards within Kern County. The primary purpose of this chapter is to promote the public health, safety, general welfare, and to minimize public and private losses due to flood conditions in Special Flood Hazard Areas (SFHA) as defined by the Federal Emergency Management Agency (FEMA). These SFHA's can be found in various engineering reports and maps such as the *Flood Insurance Study (FIS), Kern County, California* and the *Flood Insurance Rate Maps (FIRM)*.

Based on FEMA's Flood Insurance Rate Maps, this project is located within Panel 06029C 2700E (Figure 5). This map shows that the project limits are within a FEMA Flood Zone 'A'. By definition, this designation is the flood insurance risk zone that is subject to inundation by the 1% annual chance flood (also known as the 100-year flood) and is the flood that has a 1% chance of being equaled or exceeded in any given year. Because detailed hydraulic analyses are not performed to define this hazard zoning, no Base Flood Elevations (BFEs) are shown.

To permit this project in Kern County within a SFHA, the Code requires the finished floor to be elevated a minimum of 12-inches above the water surface elevation determined for a 100-year storm.

4.0 HYDROLOGY & HYDRAULIC MODELING

The hydrology and FLO-2d model prepared for the adjacent solar projects on the south side of the compost facility was used as the foundation of this analysis. This approved study titled *Hydrology Report for SKIC20 Solar LLV PV* was prepared by Meyer Engineering, Inc. (February 2014) and calculated hydrographs at two concentration points where the runoff from the San Emigdio Mountain range crosses the California

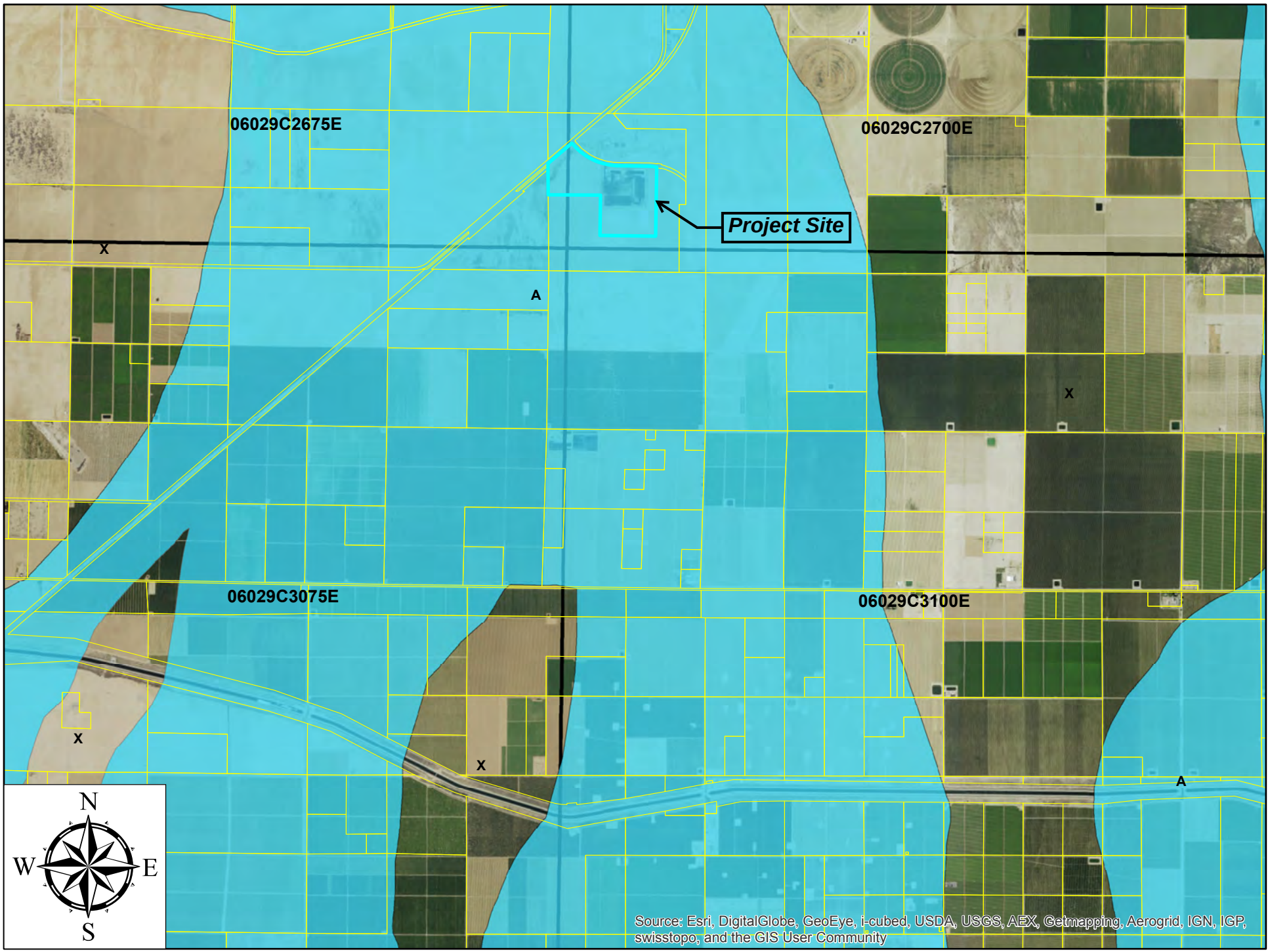


Figure 5: FEMA Flood Zone

Aqueduct. The Meyer Engineering study then performed a FLO-2d model from the California Aqueduct north through the South Kern Industrial Center area.

For this analysis, a FLO-2d model was developed to determine the flow characteristics for 1) the existing conditions, 2) the existing conditions with the remaining CUP area protected by a 5-ft. high berm, and 3) the existing conditions with the remaining CUP area protected by a berm and an elevated pad west of the existing facility to be used for material storage. The last model (Model #3 described above) also included a berm along the south side of the railroad tracks to ensure the post-developed flows overtopping South Lake Road were no more than the pre-developed flows. The pertinent steps for the FLO-2d modelling are as follows:

1. Terrain data from a topographical survey of the project site and the adjacent area was imported into the model.
2. The grid size used for the Meyer Engineering study was used and the program averaged the elevation data within each grid element to assign an elevation to each tile. The grid size used for this model was 50-ft. x 50-ft.
3. The grid element elevations along the railroad tracks on the west side, Santiago Road, and the berm at the existing facility were re-checked and adjusted as necessary to represent actual conditions.
4. Modifications were made to each run of the model to represent the conditions described above. The height of the proposed berm along the railroad tracks was adjusted until the post-developed flows crossing South Lake Road were consistent with the pre-developed flows.
5. The results were imported into CAD to develop exhibits that depict the flow characteristics for each condition.

The third model condition described above was ran a number of times in order to avoid adversely affecting adjacent properties.

5.0 SUMMARY OF RESULTS

As expected, the existing condition model shows shallow flooding south of the site that splits and goes around the existing composting facility. On the east, flows get up to 0.5-ft of depth. On the west, flows are generally in the 0.5-ft to 1-ft range with deeper areas caused by the back-water effects of the berm at the composting facility and more significantly the elevation of the railroad tracks and Santiago Road (see Figure 6).

Figure 7 depicts the flow depths of the existing conditions with a berm added around the entire 100 acre area included in the 2002 CUP. Flow depths are similar to the existing condition model describe above; however, the back-water effect is pushed south and as a result the depths get up to 1.5-ft.

Figure 8 uses the third model condition and elevates a 20+ acre pad west of the existing facility and a proposed berm along the railroad tracks. The configuration of this pad is such that the back-water effect on the south side does not adversely affect the property to the south. The proposed berm along the railroad tracks ranges from 2.15-ft to 4.27-ft. above the existing ground grid element elevation to prevent the post-developed flows from exceeding the pre-developed flows when overtopping South Lake Road. The change in flow depth is not increased by more than 0.75-ft offsite, while most areas have an increase of less than 0.25-ft (see Figure 9). Additionally, an area between the railroad and the proposed elevated pad is left unobstructed to allow the flows to pass. In addition, a strip of property along Santiago Road is lowered allowing the flow to spread out once it reaches the road before over-topping and flowing north as it did previously. Water surface elevations are shown in Figure 10.

In closing, the proposed elevated pad west of the existing facility would meet the County's Floodplain Management standards.

0
3894262 S.F.

EXISTING SYNAGRO
COMPOSTING FACILITY

Property Line

Property Line

Property Line

Property Line

100 0 200 400
200 50

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

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LAND SURVEYING • CIVIL ENGINEERING

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BAKERSFIELD, CALIFORNIA 93309
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JOB NO. 16-035
DATE: 11/15/16
DRAWN BY: MEN/SER
ISSUED FOR:

BY	REVISIONS	DATE

SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (EXISTING CONDITIONS)

FIGURE 6

AutoCAD FILE: 16035B01

SHEET 1 OF - SHEETS

EXISTING SYNAGRO COMPOSTING FACILITY

Property Line

Property Line

Property Line

Property Line

5' HIGH BERM

5' HIGH BERM

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

100 0 200 400

200 50

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SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (EX. + ENTITLED CONDITIONS)

FIGURE 7

AutoCAD FILE: 160350501

SHEET 1 OF - SHEETS

EARTHEN BERM

PROPOSED PAD

EXISTING SYNAGRO COMPOSTING FACILITY

SECTION 24, T. 32 S., R. 25 E.

500 ft

℄ SANTIAGO ROAD

Property Line

Property Line

Property Line

Property Line

5' HIGH BERM

5' HIGH BERM

100 0 200 400

200 50

Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.50	
2	0.50	1.00	
3	1.00	1.50	
4	1.50	2.00	
5	2.00	2.50	
6	2.50	3.00	
7	3.00	3.50	
8	3.50	5.06	

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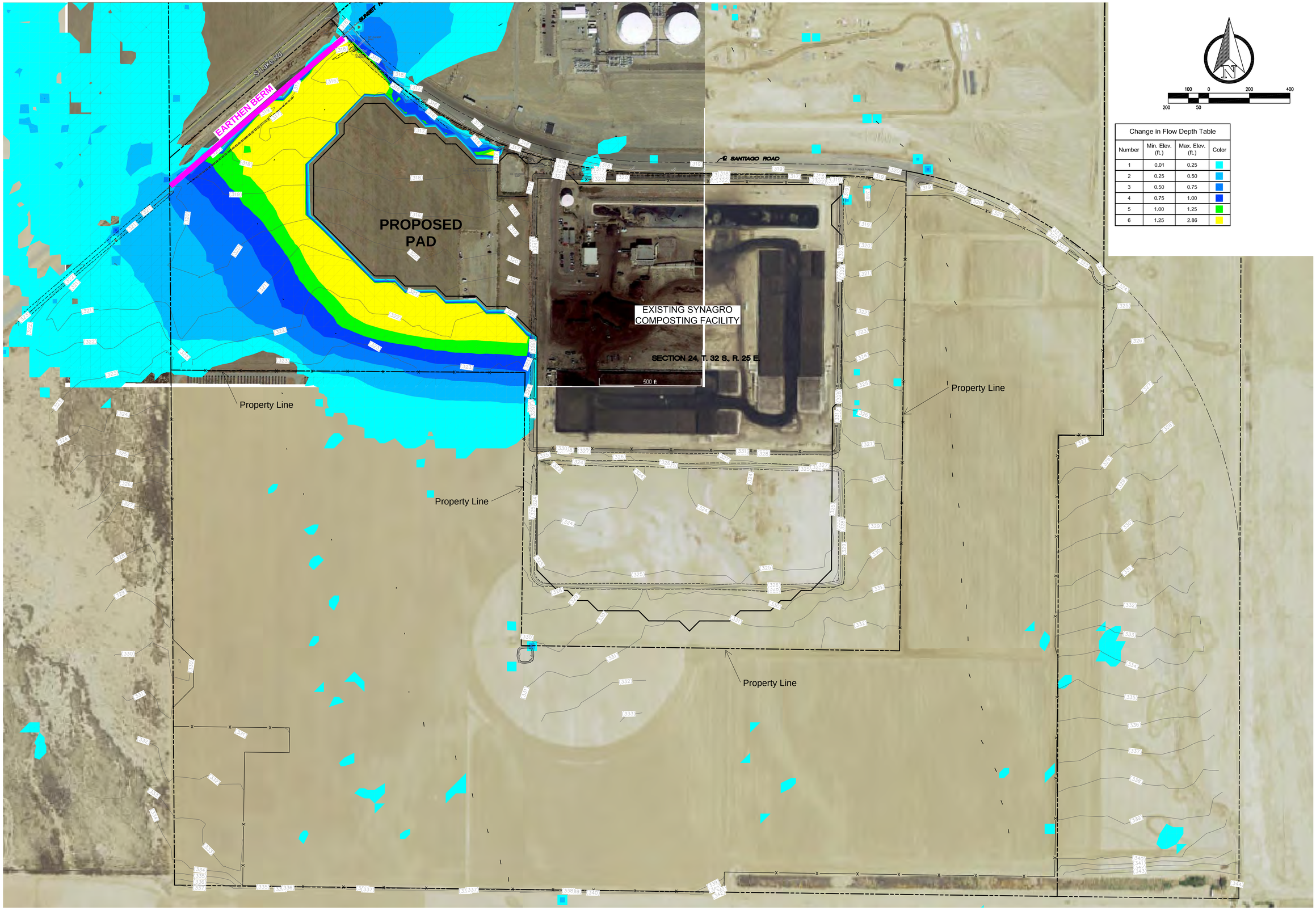
SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTHS (DEV. + ENTITLED CONDITIONS)

FIGURE 8

AutoCAD FILE: 1603SPS01

SHEET 1 OF - SHEETS



N

100 0 200 400

200 50

Change in Flow Depth Table			
Number	Min. Elev. (ft.)	Max. Elev. (ft.)	Color
1	0.01	0.25	
2	0.25	0.50	
3	0.50	0.75	
4	0.75	1.00	
5	1.00	1.25	
6	1.25	2.86	

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SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - FLOW DEPTH INCREASE EXHIBIT

FIGURE 9

AutoCAD FILE: 16035f01

SHEET 1 OF - SHEETS

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SOUTH KERN INDUSTRIAL CENTER
SYNAGRO

FLOOD ANALYSIS - MAX WATER SURFACE ELEVATIONS

FIGURE 10

AutoCAD FILE: 16035F301

SHEET 1 OF - SHEETS

APPENDIX A

FINAL

CONDITIONS AND FINDINGS FOR CUP ONLY

FOR SOUTH KERN INDUSTRIAL CENTER

FILE: GPA #4, Map #158;
CUP #2, Map #158

APPLICANT: South Kern Industrial Center LLC by Porter-Robertson Engineering and Surveying, Inc.

CONDITIONS OF APPROVAL FOR CONDITIONAL USE PERMIT 2, MAP 158:

(1) This conditional use permit shall not become effective until Kern County Board of Supervisors approval of an amendment to the Non Disposal Facility Element of the Kern County and Incorporated Cities Integrated Waste Management Plan.

(2) All necessary building permits must be obtained.

(3) The method of water supply and sewage disposal shall be as required and approved by the Kern County Environmental Health Services Department.

(4) Fire flows and fire protection facilities shall be as required and approved by the Kern County Fire Department.

(5) A plan for the disposal of drainage waters originating on site and from adjacent road rights-of-way shall be approved by the Kern County Engineering and Survey Services Department/Floodplain Management Section, if required. Easements or grant deeds shall be given to the County of Kern for drainage purposes or access thereto, as necessary.

*(6) If pesticide contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes are uncovered in the project area during grading or construction activities, then the County shall be notified. If the site is identified by the Kern County Planning Department as a potential hazardous site, then a Phase 1 Site Study shall be performed by a qualified consultant and submitted to the Planning Department by the project applicant. If any of the aforementioned hazardous substances are found on the project site, then a site remediation plan shall be prepared by the project applicant that would: (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards; and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, State, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the County. In accordance with Occupational Health and Safety Administration requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the County) for the protection of workers and the public. The developer shall employ licensed brokers or registered hazardous waste treatment engineers to handle its contaminated soil disposal needs, if any exist.

*(7) Construction activities shall be discontinued during first stage smog alerts. Construction and grading activities shall not be allowed during first stage ozone alerts. First stage ozone alerts are declared when the ozone level exceeds 0.20 ppm (1-hour average).

EXHIBIT D

(8) During all on-site grading and construction activities, adequate measures shall be implemented to control fugitive dust.

(9) All signs shall be approved by the Director of the Kern County Planning Department prior to installation.

*(10) Construction during nighttime hours shall be minimized. Kit foxes are more active and, therefore, more vulnerable to vehicle or equipment-induced injury during nighttime hours.

(11) All areas used for loading, unloading, mixing, composting, storaging of composted material, and impoundment of water originating on the site shall be underlain by impervious materials to prevent infiltration of liquid into the groundwater. Type of impervious material, installation method, depth, etc., shall be as specified by the California Regional Water Quality Control Board.

(12) The development shall comply with any requirements of the San Joaquin Valley Unified Air Pollution Control District.

*(13) All equipment storage and parking during facility construction shall be confined to the construction site or to previously disturbed off-site areas that are not habitat for listed species.

To prevent entrapment of endangered species or other wildlife species during any pipeline construction, escape ramps (consisting of loose earth deposited in the trench or pit or wooden planks) shall be erected by the project contractor to facilitate escape by any wildlife species that inadvertently fall into the open trench or pit. Trenches or pits shall also be inspected for entrapped wildlife each morning prior to the onset of construction activities and immediately prior to the end of each construction work day. Before filling open trenches and pits, the project contractor shall closely inspect these areas for entrapped animals. Any animal discovered shall be allowed to escape before construction activities resume or be moved from the open trench or pit by a qualified biologist and allowed to escape unimpeded.

The infrastructural and mechanical improvements relating to the specific activities within the project area shall be carefully designed so as to avoid the inadvertent trapping of wildlife. Any pipe segments with diameters of four or more inches shall be taped closed. Such pipe segments shall be regularly inspected for kit fox use prior to closure by welding to ensure that kit foxes are not inadvertently trapped.

(14) Should any archeological or historic resources be unearthed during construction, work shall be halted in the area of the discovery until the finds can be assessed by a qualified and certified archeologist approved by the County of Kern so that appropriate mitigation measures to preserve the find can be carried out.

(15) If archeological sites are found on the project site, the archaeologist shall report evidence to the California Archaeological Inventory Information Center South Central Office.

(16) Within 14 days prior to the commencement of grading or other site improvements, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 29, the developer shall submit a letter to the Planning Department prepared by a qualified biologist stating that the specific site has been resurveyed for kit fox dens and

potential dens and shall include findings and recommendations of the survey. The developer shall be responsible for ensuring that all appropriate actions be taken in the event that a kit fox den has been identified during the resurvey. The developer shall consult with the U. S. Fish and Wildlife Service and the State Department of Fish and Game, if the destruction of a kit fox den is considered unavoidable.

*(17) Prior to issuance of a permit to construct a septic system, an engineered septic system design shall be submitted to the Kern County Environmental Health Services Department for review. The design shall adequately address and mitigate the issue of shallow groundwater and septic installation within Flood Zone A and shall incorporate the recommendations included in the "Field Exploration and Sewage Disposal Feasibility Investigation," dated July 31, 2001 prepared by Krazan and Associates. A dry sewer shall also be installed in order to facilitate the community system, once it is constructed. Prior to final approval, engineered as-built plans shall be submitted to the Environmental Health Services Department verifying proper installation according to approved plans.

(18) Prior to issuance of building or grading permits, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 28, the Planning Department and the Engineering and Survey Services Department/Building Inspection Section shall review all development proposals to ensure consistency with the Geologic Hazards Investigation for the SKIC design criteria as required for Seismic Risk Zone 4, and all other applicable standards.

*(19) Prior to issuance of building or grading permits, construction plans for the 100-acre organic recycling facility shall incorporate the recommendations found in the Receive and Discharge Analysis, dated June 1, 2001, prepared for the project by Porter-Robertson Engineering and Surveying, Inc. and clarified with additional information in the Addendum dated July 31, 2002.

(20) Prior to issuance of building or grading permits, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 30, the developer shall submit proof of their consultation with the California Department of Fish and Game (CDFG) and the U. S. Fish and Wildlife Service (USFWS), including response letters from those agencies. The Planning Department shall ensure that all resulting requirements of the CDFG and USFWS, pursuant to Section 2081 of the Fish and Game Code and the Endangered Species Act, are adhered to.

*(21) Prior to issuance of building permits, the developer shall incorporate energy-conservation measures in the planning and construction of their proposed sites. Measures shall include, but shall not be limited to, the following: the use of low-sodium lighting fixtures for the parking areas and building exteriors; the use of fluorescent lighting fixtures; and efficient HVAC systems as part of the final building plan approved. All plan area developments shall adhere to the construction requirements pursuant to the applicable building type specifications as required by the Kern County Engineering and Survey Services Department/Building Inspection Division. Compliance with these requirements will reduce unnecessary energy consumption.

*(22) Prior to issuance of building and grading permits, construction plans for the organic recycling facility shall incorporate the recommendations found in the Geotechnical Engineering Investigation and Soil Absorption Evaluation, prepared for the project by Krazan & Associates to minimize hazards arising from the potential soil liquefaction. Foundations and structures

shall be designed with consideration of the potential hazards related to liquefaction as outlined in the Geotechnical Engineering Investigation.

*(23) Prior to issuance of building and grading permits, construction plans shall incorporate the recommendations found in the "Geotechnical Engineering Investigation and Soil Absorption Evaluation," prepared for the project by Krazan & Associates to minimize hazards arising from potential unstable soil, lateral spreading, subsidence and collapse. Foundations and structures shall be designed with consideration of the potential hazards related to potential unstable soil, lateral spreading, subsidence and collapse as outlined in the Geotechnical Engineering Investigation.

*(24) Prior to issuance of building permits, the applicant shall specify on the building plans low nitrogen oxide (NOX) emitting and/or high efficiency water heaters where appropriate.

*(25) Prior to issuance of building permits, a landscape and irrigation plan shall be submitted to the Kern County Planning Department for approval. The landscape plan shall include trees on the berm surrounding the facility.

*(26) Prior to issuance of building permits, building plans shall include placement of buildings on a north/south plane and increased insulation beyond Title 24 requirements.

*(27) Prior to issuance of grading or building permits, the project applicant shall provide on-site secured parking areas for construction equipment and personnel.

(28) The applicant shall submit a revised plot plan with the parking and maneuvering areas clearly delineated. Parking spaces shall be a minimum of 9 feet by 20 feet in size and shall function independently of one another.

(29) Prior to commencement of operations, access to the facility from Santiago Road shall be a paved major industrial private road approach connection in accordance with Kern County Roads Department.

(30) Prior to commencement of operations, the developer shall be responsible for construction of railroad crossing at Santiago Road in accordance with plans approved by the Kern County Roads Department, the California Public Utilities Commission, and the railroad operator.

(31) Prior to commencement of operations, the property owner shall record an irrevocable offer of dedication of road right-of-way to the County of Kern of all subject property within 55 feet of the centerline of Santiago Road, and including an expanded intersection with South Lake Road, including a 20-foot by 20-foot corner cutoff at intersecting streets, for major highway alignment purposes. Prior to recordation, said offer of dedication shall be reviewed and approved by the Rights-of-Way Section of the Kern County Roads Department.

(32) Prior to commencement of operations, the following improvements shall comply with requirements of the Kern County Roads Department and shall be accomplished at no cost to the County and by encroachment permit issued by the Roads Department Director.

(a) All of subject property within 55 feet of the centerline of Santiago Road shall be improved to Type B Subdivision Standards, major highway, amended to provide

base and pavement tie to existing pavement if constructed to secondary highway or major highway standards. Existing pavement shall be saw cut at match point. Santiago Road shall be fully constructed between its intersection with South Lake Road and the east border of Phase I of the Specific Plan.

(33) Prior to commencement of operations, the project operator shall obtain and comply with all permits required by State and local agencies, including, but not limited to, permits from the California Integrated Waste Management Board, California Regional Water Quality Control Board, and the Kern County Environmental Health Services Department including, but not limited to, a Report of Composting Site Information which will require revision of the site plan to indicate (1) a lane width of at least ten feet between storage piles or compost piles and between such piles and the toe of the perimeter berm to facilitate access; and (2) the height of storage piles or compost piles shall be limited to 15 feet.

(34) Prior to commencement of operations, the applicant shall provide for approval by the Kern County Environmental Health Services Department, San Joaquin Valley Unified Air Pollution Control District, and Kern County Planning Department, a closure plan detailing post-closure maintenance of the site in the case of voluntary closure or permit revocation.

(35) Prior to commencement of operations, the applicant/operator shall submit a written estimate of the cost to remove all stockpiled material upon site closure for review and approval by the Kern County Planning Director. Subsequent to approval of this estimate, the applicant/operator shall submit a financial assurance instrument for approval by the Planning Director to guarantee site closure. The financial assurance document may take the form of a surety bond, irrevocable letter of credit, or a trust fund.

(36) Prior to commencement of operations, all local, State, and federal permits shall be approved before any sludge deliveries are received on site.

(37) Prior to commencement of operations, the applicant shall enter into a Compliance Agreement with the Kern County Agricultural Commissioner related to the prevention of fruit fly infestation.

(38) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 12, street improvements are to conform to Type B Subdivision Standards of the Kern County Land Division Ordinance as modified by the Circulation Element of the South Kern Industrial Center Specific Plan.

(39) Prior to commencement of operations, a Report of Waste Discharge shall be submitted to the California Regional Water Quality Control Board. A copy of the Waste Discharge Requirements shall be submitted to the Planning Department.

(40) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 26, widening for full left-turn channelization, including tapers and transitions as approved by the Kern County Roads Department, shall be required on South Lake Road at the Santiago Road intersection. Improvements in existing County-maintained road right-of-way shall be done under encroachment permit issued by the Roads Department. Improvements to be done in nonCounty-maintained road right-of-way shall be done under approved improvement plans. If prior to

occupancy, the developer has not completed all required work at the Sunset Railroad Crossing and has done everything in his power to accomplish this goal, then the developer shall enter into an appropriate agreement with the County to assure completion of the required improvements.

(41) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 27, it may be necessary to elevate the roads in order to assure that parallel roadside drainage is outside the County road right-of-way as determined by the Kern County Roads Department.

(42) Prior to commencement of operations, in accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 41, the applicant shall request that the Kern County Board of Supervisors consider an incentive program for employers throughout the County to encourage the voluntary implementation of trip reduction programs.

*(43) Prior to commencement of operations, a Transportation Management Agency (TMA) shall be established to serve plan area businesses. The TMA shall provide vanpool service to the areas which contain the most concentrated numbers of plan area employees. The TMA shall publicize and encourage carpooling/vanpooling, update match lists, introduce prospective rideshare participants, and generally assist employees in forming and maintaining ridesharing arrangements. In addition, employees shall offer incentives to carpool/vanpoolers with the closest, most convenient parking spaces in large lots, direct cash payments to qualifying participants, accrual of one "bonus" vacation day for every 100 workdays in a carpool/vanpool, and company discounts for various goods and services.

(44) Prior to commencement of operations, the developer shall construct Santiago Road from its intersection with South Lake Road to the easterly boundary of Phase I of the South Kern Industrial Center Specific Plan, in accordance with the requirements of the South Kern Industrial Center Specific Plan and the Kern County Roads Department.

*(45) Prior to commencement of operations, the developer shall be responsible for upgrading automatic protection at the Sunset Railroad Crossing in accordance with Standard No. 9-A of the Public Utilities Commission General Order, if required by the Public Utilities Commission.

*(46) Prior to commencement of operations, where the project abuts agricultural lands, the developer shall reduce the potential for spray drift impacts associated with the aerial spraying of pesticides by establishing a 300-foot buffer zone between structures proposed for human use and the plan area boundary, or through an alternative measure acceptable to the owner of the abutting agricultural property. Examples of alternative measures which may be acceptable include, but shall not be limited to, the following: ground rig pesticide application within an established buffer zone; no pesticide use within an established buffer zone; aerial spraying during non-work hours; and coordination with businesses which operate continuously to determine the most appropriate times for aerial spraying. These measures would minimize interface conflicts between the industrial and agricultural uses. The sufficiency and adequacy of the buffer zone, or alternative measure, shall be approved by the Kern County Agricultural Commissioner's Office and the Kern County Planning Department.

*(47) Prior to commencement of operations, the operator of the organic waste recycling facility shall install and maintain an automated weather station within one mile of the facility or as

approved by Kern County Environmental Health Services Department to track atmospheric conditions for the purpose of odor control and compost management.

*(48) Prior to commencement of operations, the applicant shall request the Kern County Roads Department to post speed limit signs for all established roadways. Appropriate speeds shall be set for all future established roadways.

*(49) Prior to commencement of operations, operators shall equip all construction/earth moving equipment, processing equipment, and trucks with current EPA/CARB approved control devices (catalyst/traps) to reduce particulate and NOx emissions.

*(50) Prior to commencement of operations, the applicant shall request the San Joaquin Valley Unified Air Pollution Control District's Heavy Duty Engine Incentive Program to obtain emission reductions from older engines by replacing such engines with new, cleaner, fuel-efficient engines.

*(51) Prior to commencement of operations, the applicant shall request the Board of Supervisors adopt an incentive program for employers throughout the County to encourage the voluntary implementation of trip reduction programs. Incentives offered could include reductions in parking requirements, street improvement requirements, developer fees, business license fees, permit fast tracking, among others.

(52) Prior to final occupancy approval, the developer shall pay 14 percent of the cost to reconstruct Millux Road from Hill Road to Old River Road and 16 percent of the cost to rehabilitate (overlay) Hill Road and South Lake Road from Millux Road to the project site. These percentages are the developer's proportionate share of these improvements, based on the traffic analysis for the South Kern Industrial Center Specific Plan (Part 1 and Part 2), the analysis for the Organic Recycling Facility, and a recent Kern County Roads Department truck volume study on South Lake Road, Hill Road, and Millux Road. Actual cost to the developer will be determined by the Kern County Roads Department with further engineering analysis.

(53) Prior to final occupancy approval, **the following conditions shall be verified by the building inspector and shall be continuously maintained while this permit is active:**

(a) The sump site shall be wholly enclosed within a six-foot-high chain link fence constructed with redwood screening slats or as approved by the Kern County Engineering and Survey Services Department.

(b) The sump site shall be maintained free of debris and weeds at all times.

(c) Site illumination shall be directed away from adjoining properties and public roads.

(d) A berm of five feet in height shall be constructed around the facility for flood protection in accordance with the flood study prepared for the project.

(e) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 3, parking and maneuvering areas shall be paved with a minimum of two inches of A.C. paving.

(f) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 4, the applicant shall provide off-street parking per Kern County Zoning Ordinance requirements.

(g) The applicant shall notify the Planning Department immediately when composting activities commence.

(h) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 18, address signs and building numbers shall be installed for easy identification by emergency response personnel.

(54) **The property owner shall continuously comply with the following conditions of approval during implementation of this permit:**

(a) The developer shall provide on-site vehicle holding areas for tractor-trailer units delivering materials for composting. No vehicle "stacking" shall be permitted on Santiago Road.

(b) The site shall be closed to the general public, and that portion of the site occupied by the composting operation, including any sumps, shall be wholly enclosed within a six-foot-high chain link fence.

(c) A facility employee shall be present when incoming waste shipments are received. The facility shall be enclosed by a fence and gate and shall be locked when no facility employees are present.

(d) No manifested shipments of hazardous waste materials shall be received.

(e) The composting operation shall be conducted in such a manner that a nuisance or public health hazard does not result from noise, odors, dust, insects, or other causes as determined by any responsible public agency.

(f) Trucks shall be washed down before leaving the site to assure that no sludge, mud, or debris will be tracked onto public roads. Wash-down water shall be contained and disposed of in accordance with requirements of the California Regional Water Quality Control Board or the Kern County Environmental Health Services Department.

(g) The composting operation shall be limited to processing a maximum of 400,000 wet tons of organic waste annually, in accordance with the applicant's project description. Any expansion of the capacity involved in the operation may require application for a new conditional use permit and compliance with regulations then in effect if, in the judgement of the Planning Director, the proposed expansion constitutes a significant expansion.

(h) Finished composted materials shall not be stored on the site for more than seven days following completion of composting.

(i) All trucks making deliveries to the project shall be covered in such a manner as to prevent the blowing or loss of any material being delivered to or from the composting facility.

(j) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 8, all residential dwellings shall be prohibited.

(k) In accordance with the South Kern Industrial Center Specific Plan Site Plan Review Processing Guideline 39, operators shall equip all construction or earth moving equipment, processing equipment, and trucks operating on the project site with current EPA/CARB approved control devices.

(l) Greenwaste loads shall be certified disease-free and pest-free. Certification by a lab shall be attached to manifests. The need for such certification shall be specified in any agreements between the operator of the facility and providers of greenwaste materials to be used at the facility.

*(m) All internal combustion engine driven equipment shall be properly maintained and well tuned according to manufacturer's specifications.

*(n) All future employees of the project area shall be notified of the occurrence of the San Joaquin kit fox and Tipton kangaroo rat within the general project area. Employees shall also be notified to exercise caution when commuting to the project site in order to avoid harm to these and other wildlife species.

*(o) The applicant shall ensure that refuse contractors remove trash at regular intervals and shall be required to contain all trash onsite in appropriate trash receptacles to reduce attractiveness to San Joaquin kit foxes that may irregularly forage in this area.

*(p) Any future rodent control programs which are initiated by project area developers and businesses shall be undertaken in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in order to prevent harm to listed wildlife species that may occur in the site vicinity.

*(q) The applicant shall prepare and maintain an emergency procedures manual to be in effect at all times. The preparers of the manual shall coordinate with local hospitals and private emergency medical service providers.

*(r) The developer shall warn employees about the possible exposure to agricultural chemicals. Warnings would include copies of Material Safety Data Sheets on agricultural chemicals regularly used in the area and the possible length and extent of exposure to each material.

*(s) Project operators shall provide employee subsidies at existing child-care facilities in Bakersfield and Taft, which would provide vanpool "park and ride" starting points.

*(t) All operating equipment, processing equipment, and trucks shall be equipped with the appropriate EPA approved Tier I or Tier III model year engines, when such equipment is available.

*(u) Contractors and operators shall be required to limit engine idling time to 15 minutes on all construction or earth moving equipment, processing equipment, and trucks.

(55) All project truck traffic shall be limited to South Lake Road (east of project site), Hill Road, and Millux Road.

(56) The facility shall be required to accept no less than 10 percent of all bulking agents from local municipal greenwaste sources. Local municipal agency sources include incorporated cities, special districts, or County agencies within Kern County.

(57) All residual waste generated by the facility shall be disposed of at a Kern County solid waste facility designated by the Director of the Kern County Waste Management Department.

(58) All incoming wastes or materials to be composted shall be tracked by jurisdiction and reported by tonnage and percentage to the Director of the Kern County Waste Management Department on a quarterly basis no later than 15 days following the end of each quarter.

(59) Development shall be in substantial conformity with the approved plan and the Aerated Static Pile system shall be employed as the approved composting method.

(60) This permit shall become null and void if the use authorized has not been activated within a one-year period of time of the effective date for approval of said permit **(the date of approval of the amendment to the Non Disposal Facility Element)**, unless an extension of time has been granted by the decision-making authority, upon written request before expiration of the one-year period.

* DENOTES MITIGATION MEASURE

FINDINGS FOR CONDITIONAL USE PERMIT 2, MAP 158:

(1) The applicable provisions of the California Environmental Quality Act, the State CEQA Guidelines, and the Kern County Guidelines have been duly observed in conjunction with said hearing in the consideration of this matter and all of the previous proceedings relating thereto.

(2) This project is recommended for approval despite the existence of certain significant environmental effects identified in said Final Supplemental Environmental Impact Report, and this Commission recommends the Board of Supervisors make and adopt the findings with respect to each thereof set forth in Exhibit A, appended hereto and made a part hereof by reference, pursuant to Section 15091 of the State CEQA Guidelines (Title 14, Administrative Code) and Section 21081 of the Public Resources Code and declares that it considered the evidence described in connection with each such finding in Exhibit A and that such evidence is substantial and supports such finding.

This Commission acknowledges that approval of this project will produce certain environmental impacts which cannot be mitigated and, in accordance with Section 15093 of the State CEQA Guidelines (Title 14, Administrative Code) hereby recommends the Board of Supervisors adopt a Statement of Overriding Considerations which summarizes the reasons why this project, despite certain environmental impacts, has been approved.

Said Final Supplemental Environmental Impact Report is complete and adequate in scope and has been completed in compliance with the California Environmental Quality Act and with the State CEQA Guidelines and the Kern County Guidelines for implementation thereof.

(3) The effect upon the environment of such project and the activities and improvements which may be carried out thereunder will not be substantial and will not interfere with maintenance of a high-quality environment now or in the future. Mitigation measures have been incorporated from the Final Supplemental Environmental Impact Report as conditions of approval, and the adopted Mitigation Measure Monitoring Program specifies the required steps to satisfy each mitigation measure.

(4) The proposed use is consistent with the purpose of the applicable district or districts.

(5) The proposed use meets the minimum requirements of this chapter applicable to the use and complies with all other applicable laws, ordinances, and regulations of the County of Kern and the State of California.

(6) The proposed use is listed as a use subject to a conditional use permit in the South Kern Industrial Center Specific Plan, as amended.

(7) The proposed use is consistent with the goals and policies of the South Kern Industrial Center Specific Plan by locating "heavy" uses in a remote location away from sensitive urban areas to reduce land use conflicts.

(8) The proposed use, as conditioned, will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

(9) Approval of this project will produce composted material that complies with County Ordinance G-6638, regulating the land application of biosolids.

(10) A policy of the Land Use, Open Space and Conservation Element of the Kern County General Plan requires that the proposed 100-acre organic waste recycling facility be designated Map Code 3.4 (Solid Waste Facilities). Although the General Plan contains no siting criteria for an organic waste recycling facility, adequate protective measures are proposed in conjunction with the conditional use permit, whereby designating the proposed 100-acre organic waste recycling facility as Map Code 3.4 would be appropriate.

(11) Approval of this project and certification of the Final Supplemental Environmental Impact Report shall not be considered operative, vested, or final until such time as an agreement is made and entered into between the County of Kern and the applicant, where the applicant indemnifies the County from liability or loss connected with the various project approvals, including all approvals related to actions taken this day, or any later project-related approval involving a discretionary act.

(12) This Commission has found and determined that the Final Supplemental Environmental Impact Report (Final SEIR) prepared for this project has been completed in compliance wit the California Environmental Quality Act and the State CEQA Guidelines and the County EIR Guidelines, and that this Commission has reviewed and considered the information contained in said Final SEIR before making its decision on the herein-mentioned project. This

Commission has made findings pursuant to Sections 15091 and 15093 of the California Environmental Quality Act which are attached hereto and made a part hereof.

(13) The fee required by Fish and Game Code Section 711.4 has been previously paid for the processing of the Final Supplemental Environmental Impact Report for this project, and under Section 711.4(g), we find that the project is not tiered or phased as set forth in Sections 15385 and 15165, respectively, of the State CEQA Guidelines, and separate environmental documents or review by the Department of Fish and Game is not required, and further, based on the public interpretation of these statutes by the Department of Fish and Game staff, find this approval and related Notice of Determination exempt from the payment of the otherwise applicable fee.

SHS:ma

(I:\WP\BS\ad158-FinalCondsFinds.wpd)

APPENDIX B

These files as provided under separate cover and are available at the Kern County Planning and Natural Resources Department

Trinity Consultants

MEMORANDUM

To: Matt Crow, San Joaquin Valley Air Pollution Control District

cc: Brian Cataldo, Synagro

Brent McManigal, Gresham Savage Nolan & Tilden, PC

From: Matthew Daniel

Date: January 7, 2022

RE: Draft Environmental Impact Report for South Kern Compost Manufacturing Facility (Modification to Conditional Use Permit 2, Map #158) – Revised Health Risk Assessment

San Joaquin Valley Air Pollution Control District (SJVAPCD) has reviewed the Draft Environmental Impact Report associated with the proposed modification of the subject CUP and the SJVAPCD has requested modification to the Health Risk Assessment (HRA) to include diesel particulate matter from construction activities and incorporation of the biosolid toxic profile for the portion of particulate matter (PM) and volatile organic compounds (VOC) attributed to biosolids.

Diesel particulate matter (DPM) associated with construction activities were not used in the original HRA[1] as the Project construction activities are limited to six-months and were deemed to not contribute significantly to the health risk from the Project. As requested, a revised HRA was conducted to include the DPM from construction activities.

The decision to use green waste for 100 percent of the emissions above baseline in the original HRA[1] was determined to be conservative since the hazardous air pollutants (HAPs) associated with green waste will result in higher health risks than HAPs associated with biosolids. However, a revised HRA was completed to demonstrate that this would be the case. The revised HRA analyzed two scenarios, one with 100 percent biosolids HAP emissions and the other with 100 percent green waste HAP emissions.

This memorandum provides the revised HRA's methodology and results to include the requests of the SJVAPCD.

Predicted Health Risk Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

[1] Trinity Consultants, Air Quality Impact Analysis Synagro South Kern Compost Manufacturing Facility Project (August 2019 revised July 2020), 4-8-4-11.

The proposed Project would result in emissions of HAPs and would be located near existing residents and workers; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime for operational emissions and six-month period for construction emissions. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. Potential HAPs associated with the Project are diesel particulate matter from construction equipment, off-road equipment and on-road vehicles and fugitive emissions from the composting activities.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View) was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Since the incremental emissions of diesel particulate matter (DPM) from operational off-road equipment and on-road vehicles will decrease over time, they were not modeled in this HRA. Operational HAPs emitted from composting and material handling operations were analyzed in two scenarios. The first scenario estimated HAPs as a fraction of VOCs from composting using a green waste compost speciation profile from SJVAPCD. The second scenario estimated HAPs as a fraction of VOCs from composting using a biosolids compost speciation profile from SJVAPCD. In addition, ammonia emissions from composting were also evaluated in both scenarios of the HRA. Similarly, HAPs emitted from material handling of compost were estimated as a fraction of PM_{10} emissions from material handling operations using a green waste compost dust speciation profile from SJVAPCD in the first scenario and a biosolid compost dust speciation profile from SJVAPCD in the second scenario. The construction, composting, and material handling activities were modeled as area sources. Unit emission rates for the area sources of 1 g/sec divided by the area of the source were input into AERMOD.

Discrete receptors were placed on houses, businesses and potential agricultural workers within close proximity of the Project site. A total of 59 discrete off-site receptors were analyzed. Per SJVAPCD policy, elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Bakersfield monitoring station, calendar years 2013 through 2017 was input to AERMOD. This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

The files generated in AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2). ADMRT post-processing was used to assess the potential for excess cancer risk and non-cancer chronic and acute effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). ADMRT site parameters were set for mandatory minimum exposure pathways for

carcinogenic risk. The deposition rate was set to 0.02 m/s. Risk reports were generated for carcinogenic risk, non-carcinogenic chronic risk and non-carcinogenic acute risk. Site parameters are included in the HARP output files.

Total cancer risk was predicted at each receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}) and 1.0, respectively for the proposed Project in either HRA scenario. The PMIs, are identified by receptor location and risk, and are provided in **Table 1 and 2**. The electronic AERMOD and HARP2 output files are provided in **Attachment B**.

Table 1 – Scenario 1 Potential Maximum Impacts Predicted By HARP

	Maximum Lifetime Excess Cancer Risk	Maximum Non-Cancer Chronic Hazard Index	Maximum Non-Cancer Acute Hazard Index
Construction	3.39E-07	5.24E-02	0.00E+00
Operational	1.26E-06	1.89E-01	5.23E-01
Total	1.60E-06	2.41E-01	5.23E-01
Receptor #, Name	13, Ag Worker	13, Ag Worker	12, Ag Worker
UTM Easting (m)	295219.37	295219.37	295216.92
UTM Northing (m)	3889684.04	3889684.04	3889592.53
UTM = Universal Transverse Mercator *Note: Scenario 1 Operational Fugitive Emissions are from green waste speciation profile			

Table 2 – Scenario 2 Potential Maximum Impacts Predicted By HARP

	Maximum Lifetime Excess Cancer Risk	Maximum Non-Cancer Chronic Hazard Index	Maximum Non-Cancer Acute Hazard Index
Construction	3.46E-07	5.24E-02	0.00E+00
Operational	7.61E-08	1.68E-01	3.56E-01
Total	4.20E-07	2.21E-01	3.56E-01
Receptor #, Name	14, Ag Worker	13, Ag Worker	12, Ag Worker
UTM Easting (m)	295221.13	295219.37	295216.92
UTM Northing (m)	3889743.28	3889684.04	3889592.53
UTM = Universal Transverse Mercator *Note: Scenario 2 Operational Fugitive Emissions are from biosolid speciation profile			

Conclusions

As shown above the first scenario using the green waste speciation profile resulted in higher risk for cancer, chronic and acute than the second scenario that used the biosolid speciation profile. Therefore, any percentage of biosolids mixed with green waste would only reduce the risk from the 100 percent green waste scenario. Additionally, the inclusion of construction activities DPM did not have a significant impact on the Project's health risk.

As shown above in **Tables 1 and 2**, the maximum predicted cancer risk for the proposed Project is 1.60 in a million. The maximum chronic non-cancer hazard index for the proposed Project is 0.241. The maximum acute non-cancer hazard index for the proposed Project is 0.523. Since the PMI remained below the significance threshold for cancer, chronic, and acute risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be less than significant based on the following conclusions:

1) Potential carcinogenic risk from the proposed Project is *below* the significance level of twenty in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.
3) The hazard index for the potential acute non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant* and would not change the findings in the original HRA.

Should you have any questions or require further clarification of any aspect of this memo or the proposed impacts to health risk, please contact Matt Daniel at Trinity Consultants.

ATTACHMENT A: EMISSION ESTIMATION WORKSHEETS

These files are provided electronically under separate cover

ATTACHMENT B: AERMOD AND HARP2 ELECTRONIC FILES

These files are provided electronically under separate cover

Trinity Consultants

MEMORANDUM

To: Ronnelle Candia, Kern County Planning Department

cc: Brian Cataldo, Synagro

Brent McManigal, Gresham Savage Nolan & Tilden, PC

From: Ronald W. Hunter and Matthew Daniel

Date: May 11, 2021 (Revised June 16, 2021)

RE: Synagro Facility - South Kern Industrial Center Proposed CUP Modification
Air Quality Impact Analysis Clarification and Comparison with SKIC EIR AQ Baseline

Kern County Planning Department (the County) has reviewed the technical documents associated with the proposed modification of the subject CUP and the County has requested clarification of several issues regarding air quality impacts and how the currently proposed modifications to SKIC composting operations impact the findings posted in the Final Supplement to the EIR[1], as approved and implemented by the County. This memorandum provides a comparison of the air quality impacts permitted in the 2002 supplemental EIR and those posed by the current CUP Amendment and provides an understanding of why there are emissions reductions associated with the proposed project when compared to the existing composting operation's baseline emissions.

Air Quality Impacts – SKIC EIR (1992)

In September 1992, the Final Environmental Impact Report (EIR) for SKIC was released. The EIR provided emissions impacts specific to stationary and non-stationary sources for Estimated Annual Vehicular Emissions, Natural Gas Combustion Emissions and required Power Plant Emissions, all at project buildout. Kern County-approved the 1992 EIR and SKIC began construction and operation of portions that were, at that time, economically feasible. There were no significant changes impacting the original EIR until 2002 with action to include a composting operation to the Center.

Emissions for the 1992 EIR included both stationary and mobile sources. Stationary sources would be required to obtain Authorities to Construct and Permits to Operate through the San Joaquin Valley APCD (SJVAPCD). Certain stationary sources that exceeded SJVAPCD limits would be required to utilize Best Available Control Technology (BACT) and provide emission reduction credits (ERC) as they were constructed, completed and operated within the SKIC development.

[1] South Kern Industrial Center Specific Plan EIR, September 1992, SCH #91122017.

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2002 Supplement to the EIR

In 2002 a composting operation was proposed for SKIC and an Air Quality Impact Analysis (AQIA) was completed[2] and approved by Kern County as part of a supplement to the original EIR. The estimated emissions from the composting operation were determined in the EIR's Air Quality Impact Assessment[3] and are presented below in **Table 1**. The addition of the composting operation entailed an increase in allowed emissions above those from the 1992 EIR.

Table 1. Estimated Annual Mitigated Composting Facility Emissions Impact - 2002 (TPY)

Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5
Composting	18.9	221.5	98.3	NR	20.4	NR

NR = Not Reported – At the time the 2002 AQIA was completed SOx was not typically reported and PM2.5 emissions were considered a subset of PM10. Insight 2002

The above emissions included both stationary and mobile sources for the composting operation. Stationary sources were required to obtain Authorities to Construct and Permits to Operate through the San Joaquin Valley APCD (SJVAPCD). Certain stationary sources that exceeded SJVAPCD limits were required to utilize Best Available Control Technology (BACT) and provide emission reduction credits (ERC) as they were constructed, completed and operated within the SKIC development. The ERCs were obtained and the CUP amendment is not proposing to change any of the stationary sources previously approved and built at the Facility.

Composting Operation Modification Impacts

In order to determine actual emissions impacts posed by the proposed modifications, the Air Quality Impact Analysis (AQIA) reviewed the composting operations for a 10-year period (2008 – 2017) to establish a "baseline" (based on actual emissions). Then emissions impacts from the proposed actions were determined to establish the net change. Determining the "net change" from an established baseline is a common and accepted measurement of emissions impacts under CEQA.

It was determined that it would be inappropriate to assume a baseline emissions total from the original EIR or supplemental EIR when there were actual operational data available to base these emissions on. As such, baseline emissions were determined by reviewing 10 years of actual operations for non-stationary source (mobile) emissions from actual site-based equipment and operator knowledge of delivery and employee vehicles. Baseline emissions established that the facility's emission rates were *lower* than those projected in the 2002 Supplemental EIR for all pollutants except ROG. Most of these reductions can be attributed to conversion to progressively newer fleet mixes as older equipment, trucks and employee vehicles are retired. Emissions impacts from Non-Stationary (Mobile) Sources are declining each year as technology decreases emissions from mobile equipment (loaders, trucks, cars, etc.). **Table 2** provides the proposed Non-Stationary Source Emissions.

[2] Final Supplement to the Environmental Impact Report for South Kern Industrial Center Specific Plan, General Plan Amendment Case No. 4, Map 158, CUP No. 2, Map 158, SCH #1991122017, October 2002.

[3] Insight Environmental Consultants, Air Quality Imnpact Assessment, South Kern Industrial Center Specific Plan – March 20, 2002.

Table 2. Proposed (Operational – Mobile) Non-Stationary Source Emissions (TPY)

Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5
Baseline Emissions (2008–2017)	4.67	54.81	20.02	0.068	7.48	2.94
Proposed Unmitigated Emissions	2.24	30.51	12.16	0.064	5.99	1.52
Project Incremental Emissions*	**-2.43**	**-24.30**	**-7.85**	**-0.004**	**-1.49**	**-1.41**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

(*) Proposed emissions will be less than Baseline emissions due to emission reductions achieved by newer less-polluting mobile equipment.

The estimated emissions from the composting operation were determined in the EIR's Air Quality Impact Assessment[4] and are presented below in Table 3. These emissions would occur with the start-up of the proposed project (opening year).

Table 3. Proposed Annual Composting Facility Stationary Source Emissions (TPY)

Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5
Baseline Emissions (2008–2017)	30.58	0.16	20.02	0.13	0.02	0.02
Proposed Unmitigated Emissions	80.21	0.43	0.09	0.14	0.06	0.06
Project Incremental Increase (Unmitigated)	49.64	0.27	0.08	0.01	0.04	0.04
Mitigation (ERC Credits)*	-49.64	-	-	-	-	-
Project Incremental Increase (Mitigated)	**0.00**	**0.27**	**0.08**	**0.01**	**0.04**	**0.04**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

(*) ERCs have been secured by Synagro.

Conclusions

The above emissions data was taken from the County-approved 2002 Supplemental EIR and from the project AQIA completed in support of the proposed composting operation modification. These results support the following conclusions:

- Non-stationary (mobile) source emissions will be reduced primarily through use of newer more efficient and lower emitting equipment.
- There will be a reduction in operational emissions from the County-approved 2002 Supplemental EIR based on mobile-source reductions that occur due to use of newer, cleaner equipment.
- Project emission increases for NOx, CO, SOx, PM10 and PM2.5 only total a combined 0.44 TPY and are significantly below SJVAPCD Thresholds for each constituent.
- Proposed increases in ROG emissions will be fully offset with the existing ERCs purchased by Synagro.

[4] Insight Environmental Consultants, Air Quality Imnpact Assessment, South Kern Industrial Center Specific Plan – March 20, 2002.

Should you have any questions or require further clarification of any aspect of this memo or the proposed impacts to air quality, please contact either Ron Hunter or Matt Daniel at Trinity Consultants.

AIR QUALITY IMPACT ANALYSIS

Synagro SKIC Compost Facility Modification Project

Kern County, California

Prepared For:

SYNAGRO
YOUR PARTNER FOR A CLEANER, GREENER WORLD

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August 2019

Project 180505.0090

Insight Environmental Consultants | Trinity Consultants

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1. EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc., *a Trinity Consultants Company*, has completed an Air Quality Impact Analysis (AQIA) for the Synagro South Kern Industrial Complex (SKIC) Composting Facility Modification Project (Project). This Project will be located at the Synagro SKIC Composting Facility at 2653 Santiago Road in unincorporated Kern County, near Taft, California and will include the modification of the facility's existing Conditional Use Permit (CUP) to allow addition of food waste material to the composting operation, increase the height of all feedstock/blended material, compost and curing pile heights from 16 to 20 feet and increase storage time of finished compost from 7 days to 180 days to account for seasonal market fluctuations, and add receiving, processing, and screening equipment necessary to process the additional feedstock and resulting compost.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees and delivery trucks), area sources (incidental activities related to facility maintenance) as well as stationary sources (composting operations). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD), EMFAC2017 (CARB 2018), Emission Estimation Methodology for Off-Highway Recreational Vehicles (CARB 2013), AP-42: Compilation of Air Pollution Emission Factors (EPA 2018), California Climate Action Registry General Reporting Protocol Version 3.1, Waste Reduction Model (WARM) version 14 (EPA 2016), the facility's SJVAPCD stationary source Permits to Operate, and Greenhouse Gas Inventory Guidance (EPA 2016).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Tables 4-4 and 4-5** presents the Project's operations emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Table 4-6** presents the Project's GHG emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin.

Cumulative impacts were also evaluated. Kern County Community Development and Planning Department provided a list of projects that were evaluated to determine these probable impacts. The project information provided by Kern County, combined with the proposed impacts from this Project, supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions are less than zero. Additionally, compliance with the SJVAPCD's Air Quality Attainment Plan (AQAP) is presumably required by all projects' located within the SJVAPCD's jurisdiction. Because projects that would have been included in the cumulative analysis presumably comply with the requirements of one or both of these plans, the Project's incremental contribution to a cumulative effect is considered *less than cumulatively considerable* (CEQA Guidelines § 15064(h)(3); SJVAPCD 2015).

2.1. PURPOSE

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the Kern County Planning and Community Development Department's (KCPD) Air Quality Preparation Guidelines (KCPD 2006), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2019).

2.2. GENERAL PROJECT DESCRIPTION

The Synagro SKIC Composting Facility Modification Project (Project) will modify the composting operation to allow additional types of 'mixed material' and organic wastes to include all types of food material such as post-consumer food waste, food-soiled paper, compostable plastics, and digestate. The Project modification will also increase feedstock, composting and processing, and storage pile heights from 16 to 20 feet and increase storage time of finished compost from 7 days to 180 days to account for seasonal market fluctuations. Additional equipment will be installed to be used during pre-processing and post composting operations including but not limited to grinders, conveyors, shaker decks, and electrical screens. The facility is permitted receive and process up to 670,000 wet tons of material per year (WTPY) comprised of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of wood chips and agricultural waste products. At full capacity, the amount of finished product produced at the facility is expected to be between 250,000 and 350,000 wet tons per year. The design of the facility is based on an annual average daily throughput of 1,100 wet tons of biosolids combined with up to 771 wet tons of additives. The existing peak daily throughput of the receiving building/mixing equipment could be up to 5,700 wet tons of combined biosolids and additives. The Project is proposing no changes to permitted tons processed, traffic counts, traffic patterns, technology, hours of operation, or permitted area.

While maintaining current process limits established by Kern County, the facility will adopt a flexible feedstock plan using biosolids and food material with bulking agents to address state mandates. Green waste and agricultural wastes are classified as bulking agents and are currently composted in a aerated static pile (ASP) using a blend of 60 percent biosolids and 40 percent bulking agents. Using the same ASP technology, the process will be modified to utilize a flexible processing plan that could process up to 40 percent food material with 60 percent bulking agents.

The proposed Project will enable Synagro to receive the organic waste products recently mandated by the State of California to be diverted from landfills and composted. The Project will help meet the recently enacted State mandates of AB 1826 (Chesbro 2014) regarding Mandatory Commercial Organics Recycling Collection and SB 1383 (Lara 2016) Short Lived Climate Pollution Plan regarding diversion of 50 percent of all organics from landfills by 2020 and 75 percent by 2025. There will be over 20 million tons of organic wastes having to be diverted from landfills statewide.

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Figure 2-1 - Regional Location

Figure 2-2 - Project Location

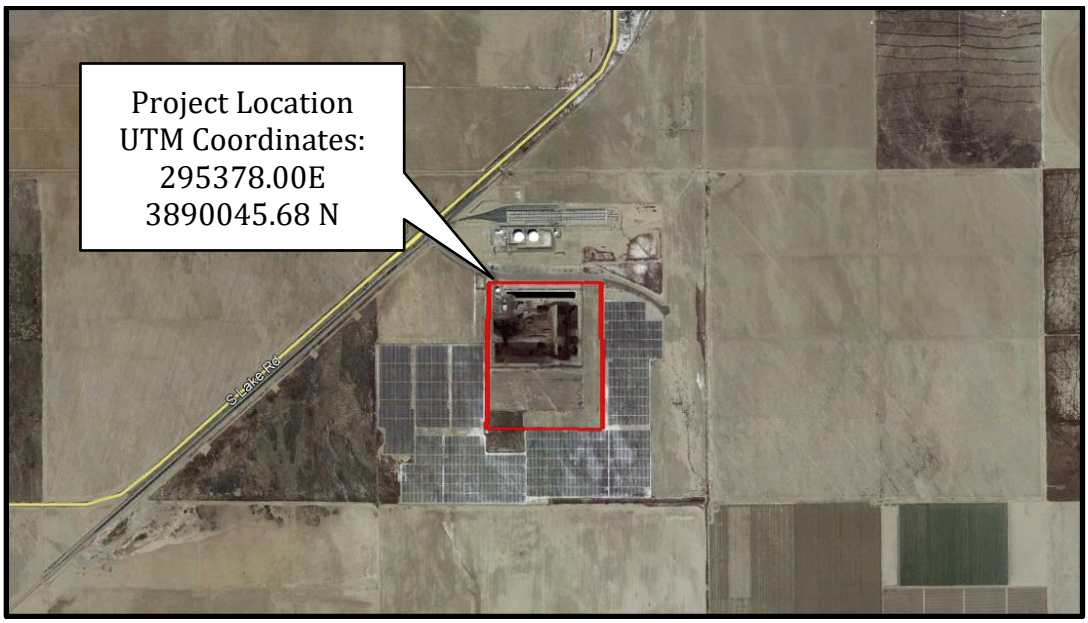


Figure 2-3 – Conceptual Site Plan

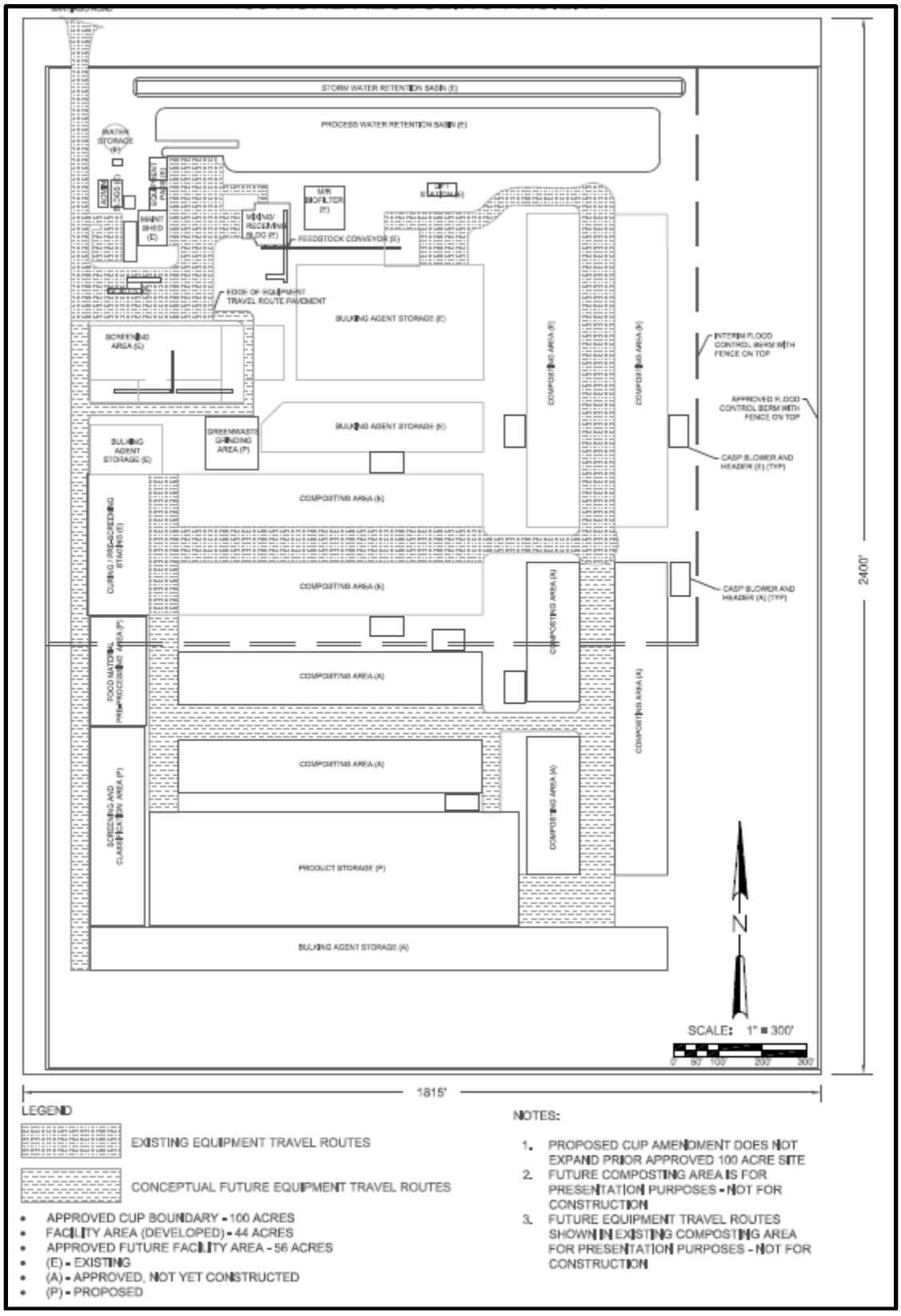
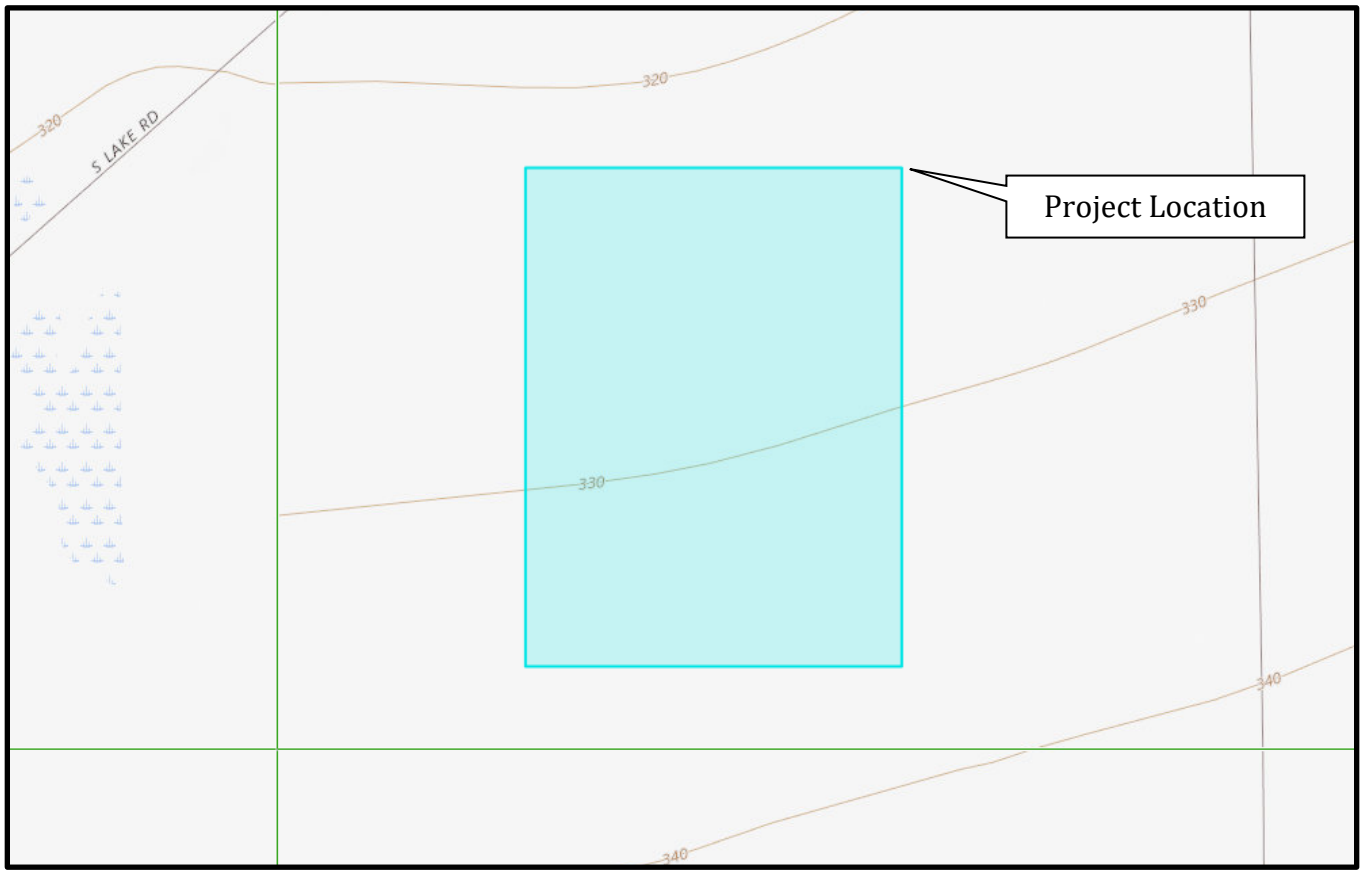


Figure 2-4 depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2015). The Project site is located at an elevation of approximately 330 feet above mean sea level, is surrounded by agricultural and vacant land, and is within the Kern County, CA boundary.

Figure 2-4 – Project Site Topography



Source: USGS 2018

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene) and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kern County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are “unclassified,” in “attainment”, or in “non-attainment” for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1. AIR QUALITY STANDARDS

The Project area is located in the SJVAB in Kern County and which is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. **Table 3-1** provides the NAAQS and CAAQS.

Table 3-1 - Federal & California Standards

		NAAQS	CAAQS
Pollutant	**Averaging Time**	**Concentration**	
O_3	8-Hour	0.070 ppm (137 µg/m³) [a]	0.070 ppm (137 µg/m³)
	1-Hour		0.09 ppm (180 µg/m³)
CO	8-Hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)
	1-Hour	35 ppm (40 mg/m³)	20 ppm (23 mg/m³)
NO_2	Annual Average	53 ppb (100 µg/m³)	0.030 ppm (57 µg/m³)
	1-Hour	100 ppb (188.68 µg/m³)	0.18 ppm (339 µg/m³)
SO_2	3-Hour	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1-Hour	75 ppb (196 µg/m³)	0.25 ppm (655 µg/m³)
Particulate Matter (PM_{10})	Annual Arithmetic Mean		20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
	24-Hour	35 µg/m³	
Sulfates	24-Hour		25 µg/m³
Pb [d]	Rolling Three-Month Average	0.15 µg/m³	
	30 Day Average		1.5 µg/m³
H_2S	1-Hour		0.03 ppm (42 µg/m³)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[b]

ppm = parts per million mg/m3 = milligrams per cubic meter µg/m ³= micrograms per cubic meter
ppb = parts per billion

Source: CARB 2016

a On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b In 1989, the CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kern County portion of the SJVAB has been classified as either nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

Table 3-2 - SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
O_3, 1-hour	No Federal Standard[f]	Nonattainment/Severe
O_3, 8-hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2018a

Note:

a See 40 CFR Part 81

b See CCR Title 17 Sections 60200-60210

c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

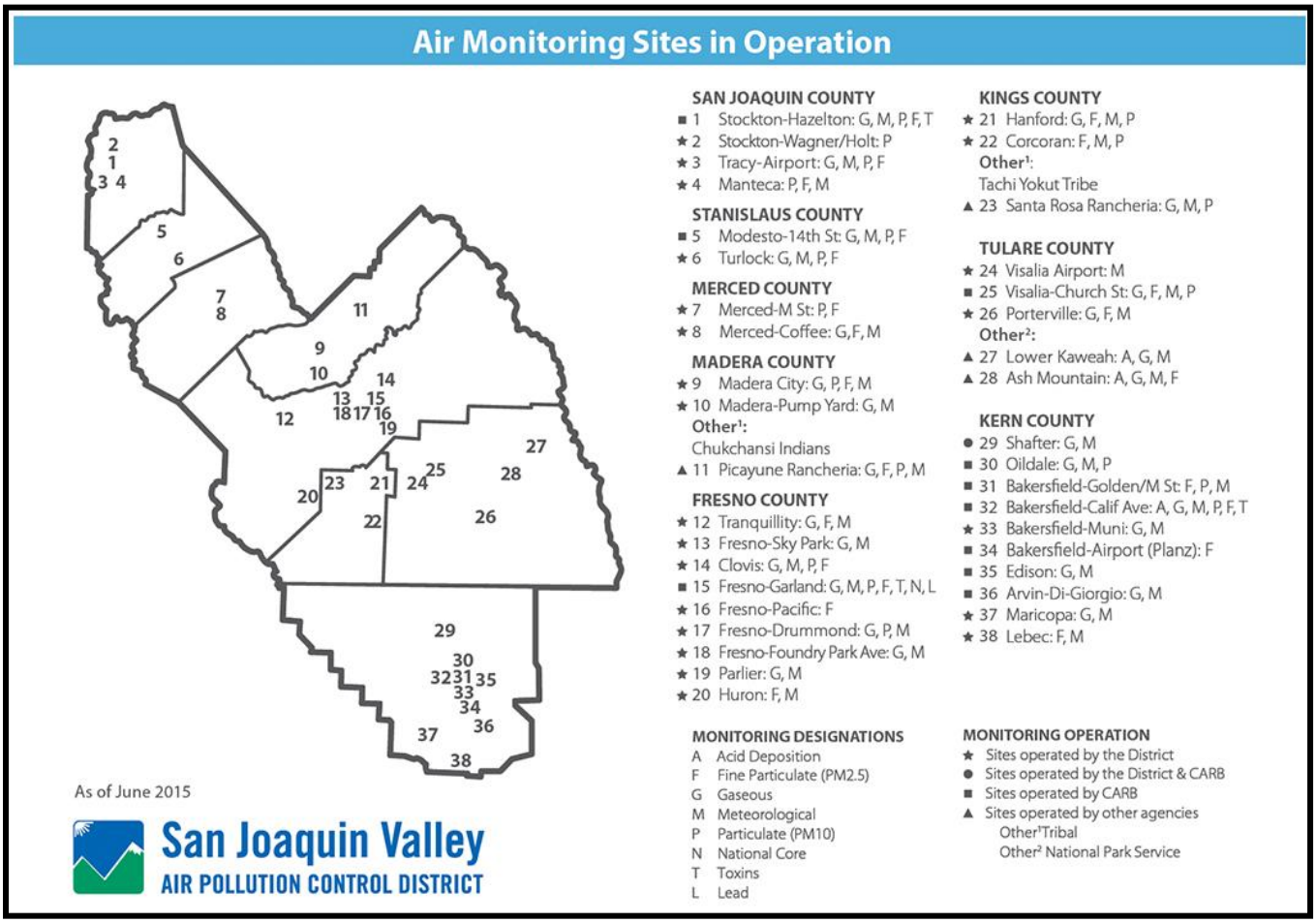
d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

f Effective June 15, 2005, the EPA revoked the federal 1-hour O3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 nonattainment areas continue to apply to the SJVAB.

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in **Figure 3-1**.

Figure 3-1 – SJVAPCD Monitoring Network



Source: SJVAPCD 2017

3.2. EXISTING AIR QUALITY

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb as of June 2015. Information is provided for the Maricopa-Stanislaus St., Bakersfield – 5558 California Ave., Bakersfield – Golden State Hwy., Bakersfield – Municipal Airport, for 2015 through 2017. No data is available for H_2S, Vinyl Chloride, or other toxic air contaminants in the Kern County or surrounding counties.

Table 3-3 - Existing Air Quality Monitoring Data in Project Area

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2015	2016	2017	2015	2016	2017
O_3 – 1-hour CAAQS (0.09 ppm)						
Maricopa – Stanislaus Street	0.094	0.092	0.117	0	0	1
Bakersfield – California Avenue	0.104	0.092	0.122	6	0	11
O_3 – 8-hour CAAQS (0.07 ppm)						
Maricopa – Stanislaus Street	0.088	0.087	0.094	32	55	42
Bakersfield – California Avenue	0.097	0.086	0.104	54	63	87
O_3 – 8-hour NAAQS (0.070 ppm)						
Maricopa – Stanislaus Street	0.087	0.087	0.093	32	50	38
Bakersfield – California Avenue	0.096	0.085	0.104	52	60	85
PM_{10} – 24-hour CAAQS (50 µg/m³)						
Bakersfield – California Avenue	103.6	92.2	143.6	20	21	16
Bakersfield – Golden State Highway	94.6	91.6	165.1	16	26	24
PM_{10} – 24-hour NAAQS (150 µg/m³)						
Bakersfield – California Avenue	104.7	90.9	138.0	0	0	0
Bakersfield – Golden State Highway	100.5	91.6	158.2	0	0	1
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m³)						
Bakersfield – California Avenue	107.8	66.4	101.8	29	23	28
Bakersfield – Golden State Highway	91.1	53.9	74.3	9	7	9
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO2 - 1-Hour CAAQS (0.18 ppm)						
Bakersfield – California Avenue	0.054	0.058	0.066	0	0	0
Bakersfield – Municipal Airport	0.055	0.058	0.062	0	0	0
NO2 - 1-Hour NAAQS (0.10 ppm)						
Bakersfield – California Avenue	0.055	0.058	0.066	0	0	0
Bakersfield – Municipal Airport	0.055	0.058	0.063	0	0	0
SO2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³)						
Bakersfield – California Avenue	9.5	19.8	12.6	0	0	0

Source: CARB 2018a

Notes: ppm= parts per million

* There was no data available to determine the value.

The following is a description of criteria air pollutants, typical sources, and health effects and the recently documented pollutant levels in the project vicinity.

3.2.1. Ozone (O_3)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O_3. High levels of O_3 cause eye irritation and can impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach, and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage. O_3 is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions

involving hydrocarbons and nitrogen oxides (NO_x). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Project area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS for the 2015 through 2017 period.

3.2.2. Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate, which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $PM_{2.5}$. The project area is classified as attainment for PM_{10} and non-attainment for $PM_{2.5}$ for NAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of PM_{10} and $PM_{2.5}$ in Kern County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. In the respiratory tract, very small particles of certain substances may produce injury by themselves or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2015 through 2017. **Table 3-3** shows that $PM_{2.5}$ NAAQS were exceeded from 2015 through 2017. Similar levels can be expected to occur in the vicinity of the project site.

3.2.3. Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the San Joaquin Valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravating cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

Table 3-3 reports no CO levels were recorded at any California monitoring stations during the three-year period from 2015 through 2017; historically Project area data for CO has been below the CAAQS and NAAQS.

3.2.4. Nitrogen Dioxide (NO_2) and Hydrocarbons

Kern County has been designated as an attainment area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's NO_x emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

Table 3-3 shows that the Federal or State NO_2 standards have not been exceeded at the Project area-monitoring stations over the three-year period of 2015 through 2017. Hydrocarbons are not currently monitored.

3.2.5. Sulfur Dioxide (SO_2)

Kern County has been designated as an attainment area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respired in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SO_x), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SO_x can also react to produce sulfates that reduce visibility and sunlight.

Table 3-3 shows no data has been reported over the three-year period in California.

3.2.6. Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Fresno are well below the ambient standard and are expected to continue to decline; the data reported in **Table 3-3** shows the highest concentration and the measured number of days exceeding the standards. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.3. CLIMATE

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 Taft monitoring station. This data is provided in **Table 3-4 – Taft Weather Data**, which contains average precipitation data recorded at the Taft monitoring station. Over the 68-year period from July of 1948 through June of 2016 (the most recent data available), the average annual precipitation was 5.39 inches.

Table 3-4 – Taft Weather Data

Period of Record Monthly Climate Summary for the Period 07/01/1948 to 6/10/2016													
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Average Max. Temperature (F)	57.8	62.2	69.6	75.2	84.2	91.8	98.4	97.3	91.8	79.6	66.1	58.4	77.7
Average Min. Temperature (F)	41.0	44.0	47.3	49.7	56.1	60.5	67.2	65.0	61.4	53.9	46.3	40.9	52.8
Average Total Precipitation (in.)	1.07	1.29	0.75	0.50	0.37	0.03	0.00	0.01	0.06	0.28	0.38	0.65	5.39
Average Total Snowfall (in.)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 11.6% Min. Temp.: 11.5% Precipitation: 17.8% Snowfall: 12.3% Snow Depth: 12.2%													

Source: Western Regional Climate Center, 2018.

3.4. CLIMATE CHANGE AND GREENHOUSE GASES

3.4.1. Global Climate Change

Global climate change refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policy makers to "global warming" because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe "most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2017). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary cause of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

Natural sources of CO_2 include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO_2 each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation,

cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO_2 from human activities. Consequently GHGs are building up in the atmosphere (Environpedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH_4 emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2016). Emissions from the top five emitting countries and the European Union accounted for approximately 55 percent of total global GHG emissions. The United States was the number two producer of GHG emissions. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 84 percent of total GHG emissions (U.S. EPA, 2016).

In 2009, the United States emitted approximately 6.6 billion metric tons of CO_2e or approximately 25 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 62 percent of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2006, total United States GHG emissions rose approximately 14.7 percent (U.S. EPA, 2016).

Worldwide CO_2 emissions are expected to increase by 1.9 percent annually between 2001 and 2025 (U.S. Energy Information Center, 2017). Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at 2.7 percent annually between 2001 and 2025, and surpass emissions of industrialized countries around 2018.

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 1990 through 2008 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

California's 2017 net emissions of 424 million metric tons of CO_2 equivalent ($MMTCO_2e$) decreased 5 $MMTCO_2e$ from 2006 levels, with a decrease of 14 percent from maximum levels of 483.9 $MMTCO_2e$ in 2004 and 7 $MMTCO_2e$ below the 1990 emissions level which is the State's 2020 GHG limit. Transportation emissions continues to be the largest source of GHG emissions in the State. The annual increase of transportation emissions in 2017 has slowed down slightly compared to the previous three years. 2017 emissions also showed a 24 percent decrease per person since the peak year of 2001 dropping from 14.1 metric tons per person to 10.7 metric tons per person. (CARB 2019)

CARB estimates that transportation was the source of approximately 40 percent of California's GHG emissions in 2017, followed by industrial sources at 21 percent and the electricity sector at 15 percent which showed another

large drop due to the increase in renewable energy. Other sources of GHG emissions were residential plus commercial activities at 9.7 percent and agriculture at 7.6 percent. (CARB 2019)

3.4.2. Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining in the range of 70 percent to 90 percent, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- Increasing temperatures in a range of 8 to 10.4 °F under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 percent to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3. Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change 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 methane. 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. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 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.

The California Supreme Court's recent CEQA decision on the Newhall Ranch development case, *Center for Biological Diversity v. California Department of Fish and Wildlife* ((2015) 62 Cal.4th 2014), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less that significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans, or could apply specific numerical thresholds developed by some local agencies.

The current inventory and forecast for GHG emissions in the California Air Resources Board's 2014 First Update to the Climate Change Scoping Plan supports the recent changes to IPPC's 2011 estimates by calculating global warming potentials (GWP) of the various GHGs. CARB now uses GWPs in its climate change programs and to estimate the various impacts. Using the IPCCs Fourth Assessment Report, CARB has recalculated the 1990 GHG emissions level to be 431MMTCO_2e. Therefore, the 2020 emissions limit established in response to AB32 is now slightly higher than the 427MMTCO_2e that was identified in the initial Scoping Plan. It is widely understood that climate change is a "global" issue and, as such, GHG emissions are a cumulative problem and can only be evaluated as such.

As discussed in Section 4.1, Significance Criteria, the SJVAPCD, a CEQA Responsible Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29 percent reduction from BAU (a specific numerical threshold). Therefore the 29 percent reduction from BAU is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4.1. SIGNIFICANCE CRITERIA

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB, and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate, and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1. Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O_3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4-1**.

Table 4-1 SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr
NO_x	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr
SO_x	27 tons/yr	27 tons/yr
PM_{10}	15 tons/yr	15 tons/yr
$PM_{2.5}$	15 tons/yr	15 tons/yr
Source: SJVAPCD 2015		

4.1.2. Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance. The Project will require new equipment that requires permit authorization from the SJVAPCD and will be subject to NSR and PSD under SJVAPCD rules

4.1.3. Thresholds for Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources" (SJVAPCD 2015).

Table 4-2 presents the thresholds of significance uses with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4-2 Measures of Significance – Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 20 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
		Chronic: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
Source: SJVAPCD 2015		

4.1.4. Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (APR 2005)* (SJVAPCD 2009), which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further

environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement Best Performance Standards (BPS).

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

Additionally, under SJVAPCD policy *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and Trade Reduction (APR 2025)* (SJVAPCD 2014), the SJVAPCD finds that the Cap-and-Trade is a regulation plan approved by CARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with APR 2005 (SJVAPCD 2009), projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

4.2. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the Project.
- Long-term (Operations) – Long term emissions were estimated using CalEEMod, EMFAC2017, WARM Model, AP-42, and stationary source emission factors.

4.2.1. Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.

The Project applicant provided a list of specific construction equipment and timeline and were therefore used in estimating the construction emissions. Applying Project applicant assumptions and model defaults, construction emissions were projected based on the estimated construction schedule. The estimated construction equipment, schedule and average employee count is as follows:

- Off-Road Equipment:
  - Two scrapers
  - One Grader
  - Two Compactors/Rollers
  - One Dozer
  - One Excavator
- Schedule
  - Site Preparation and Grading – 20 Days
  - Compost Pad Construction – 30 Days
  - Equipment Areas Pad Construction – 30 Days
  - Equipment Installation/Commissioning – 60 Days
  - Construction Activities – 5 days/week and 10 hours/day
- Employees
  - 9 Equipment Operators
  - 5-10 Laborers

In order to be conservative it was assumed all pieces of equipment would operate and there would be 19 construction workers present every day of the construction period. Additionally, it was assumed all construction would occur in 2019. If the total construction time is accurate, all estimated emission totals are believed to be conservative and reasonable and present a legally sufficient estimate of potential impacts to air quality.

SJVAPCD's required mitigation measures for all projects were also applied:

- Water exposed areas 3 times per day; and
- Reduce vehicle speeds to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

Table 4-1 – Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Emissions						
Construction Emissions	0.40	4.54	2.63	0.01	0.39	0.24
Mitigated Emissions						
Construction Emissions	0.40	4.54	2.63	0.01	0.28	0.21
Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Is Threshold Exceeded For a Single Year After Mitigation?	No	No	No	No	No	No
Source: Insight Environmental Consultants, 2019 *Note:* 0.00 may represent <0.005						

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be *less than significant*.

4.2.2. Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

4.2.2.1. Fugitive Dust Emissions

Operation of the Project site at planned full operation is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from unpaved travel associated with equipment at the Project site.

PM_{10} on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM_{10} Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

4.2.2.2. Exhaust Emissions

Project-related transportation activities from employees and delivery trucks would generate mobile source ROG, NO_x, SO_x, CO, PM_{10} and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

4.2.2.3. Stationary Source Emissions

Permitted stationary source emissions are not anticipated to change as a result of the proposed Project. However, baseline emissions and post-project (current permit levels) emissions were estimated. Stationary source emissions from the Project would consist of VOC, PM_{10} and $PM_{2.5}$ emissions released to the atmosphere from the composting process.

4.2.2.4. Projected Emissions

The proposed project is expected to have long-term air quality impacts as shown in **Tables 4-4 and 4-5**. Emission calculations are available in Attachment B.

Table 4-4 – Post-Project (Operational) Non-Stationary Source Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Baseline Emissions (10 Year Avg. 2008 – 2017)	4.67	54.81	20.02	0.068	7.48	2.94
Post-Project Unmitigated Emissions	2.24	30.51	12.16	0.064	5.99	1.52
Project Incremental Emissions	**-2.43**	**-24.30**	**-7.85**	**-0.004**	**-1.49**	**-1.41**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

Source: Insight Environmental Consultants 2019

As shown in Table 4-4, operations-related non-stationary source emissions, as calculated in Attachment B, would decrease compared to baseline emissions primarily due to the reduction in fleet average emission factors due to cleaner vehicles in the post-Project period compared to the baseline period. The Project also proposes the potential to mitigate non-stationary sources further by phasing in compressed natural gas (CNG) fueled delivery trucks in the future. However, CNG fueled delivery trucks were not analyzed in this analysis. Since the Project's incremental emissions will decrease, they will be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a *less than significant* impact during Project operations from non-stationary sources.

Table 4-5 – Post-Project (Operational) Stationary Source Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Baseline Emissions (10 Year Avg. 2008 – 2017)	30.58	0.16	0.02	0.13	0.02	0.02
Post-Project Unmitigated Emissions	80.21	0.43	0.09	0.14	0.06	0.06
Project Incremental Increase (Unmitigated)	49.64	0.27	0.08	0.01	0.04	0.04
Mitigation (ERC Credits)	-49.64	-	-	-	-	-
Project Incremental Increase (Mitigated)	**0.00**	**0.27**	**0.08**	**0.01**	**0.04**	**0.04**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	NO	NO	NO	NO	NO	NO

Source: Insight Environmental Consultants 2019

As shown in Table 4-5, operations-related stationary source emissions, as calculated in Attachment B, would be greater than the SJVAPCD significance threshold levels for ROG emissions prior to mitigation. However, ROG emissions were mitigated through the surrender of emission reduction credits (ERCs). Since the Project is not proposing any changes to permitted tons processed there will not be any increase in permitted emissions, consequently, the post-Project stationary source emissions are equal to the currently permitted emissions. Therefore, the incremental ROG emissions increase from stationary sources has already been mitigated through the permitting process by fully surrendered ERCs S-2114-1, N-442-1, and N-4223-1 and partially surrendered S-2792-1 for a total of 105.33 tons (credit for 70.22 tons with distance offset ratio applied) of ROG emissions during the permitting process for the Project's facility. Therefore, the proposed Project would have a *less than significant* impact during Project operations from stationary sources.

4.3. POTENTIAL IMPACTS ON SENSITIVE RECEPTORS

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. There are scattered agricultural residences in the surrounding area to the Project site. These residential receptors represent the nearest sensitive receptors to the proposed Project site with the closest approximately

1.55 miles to the north of the Project. There are no known non-residential sensitive receptors within 2 miles of the Project site. As such, impacts to sensitive receptors are expected to be negligible and are considered less than significant.

4.4. POTENTIAL IMPACTS TO VISIBILITY TO NEARBY CLASS 1 AREAS

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Class 1 Areas are federal lands such as national parks, national wilderness areas, and national monuments. The nearest Class 1 Area to the project site would be the San Rafael Wilderness located approximately 54 kilometers to the southwest. Because the Project's PM_{10} emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the Project is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM_{10} emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 Area.

4.5. POTENTIAL IMPACTS FROM CARBON MONOXIDE

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state or national standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

I. 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 would be reduced to LOS E or F; or
II. 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.

A traffic generation assessment impact study has been prepared for this project and determined that no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels and the Project will not reduce any street or intersection to a LOS E or F and will not worsen any already existing LOS F of any street or intersection after mitigation (Ruettgers & Schuler 2019). Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6. PREDICTED HEALTH RISK IMPACTS

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

The proposed Project would result in emissions of HAPs and would be located near existing residents and workers; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. Potential HAPs associated with the Project are diesel particulate matter from off-road equipment and on-road vehicles and fugitive emissions from the composting activities.

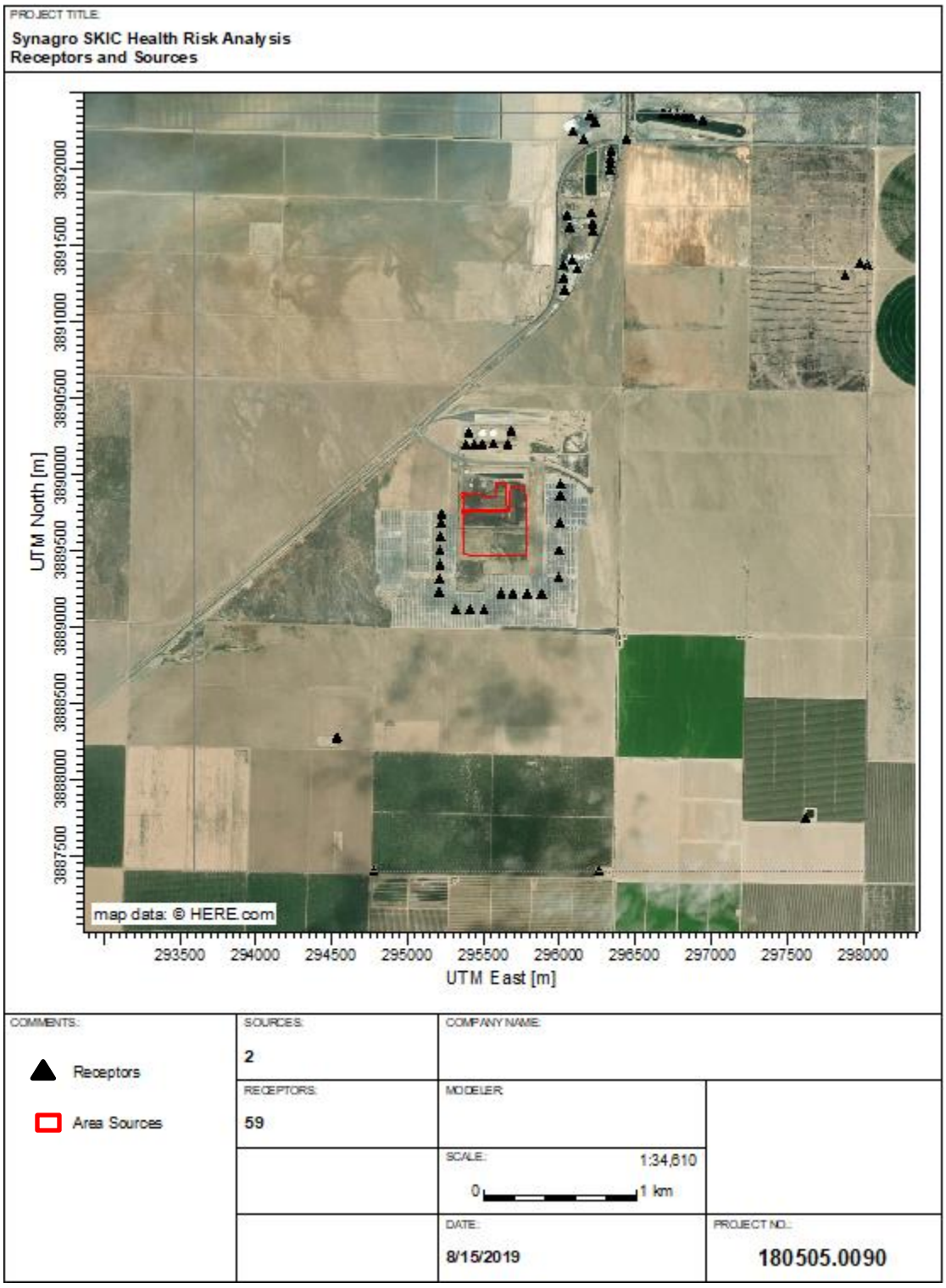
Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View 9.4.0 interface) was used to predict the dispersion of emissions from the proposed Project (Lakes Environmental Software 2017). The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Since the incremental emissions from diesel particulate matter (DPM) will decrease over time, they were not modeled in this HRA. HAPs emitted from composting were estimated as a fraction of VOCs from the composting using a greenwaste compost speciation profile from SJVAPCD (SJVAPCD 2016). In addition ammonia emissions from composting were also evaluated in this HRA. HAPs emitted from material handling of compost were estimated as a fraction of PM_{10} emissions from material handling operations using a greenwaste compost dust speciation profile from SJVAPCD (SJVAPCD 2016b).

Discrete receptors were placed on houses, businesses and potential agricultural workers within close proximity of the Project site. A total of 59 discrete off-site receptors were analyzed. Per SJVAPCD policy, elevated terrain options were employed even though there is not complex terrain in the Project area. **Figure 4-1** shows the location of modeled receptors and sources.

Figure 4-1 – Modeled Receptors and Sources



SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Bakersfield monitoring station, calendar years 2010 through 2014 was input to AERMOD (SJVAPCD 2018b). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were imported to HARP CONVERSION software (Villalvazo 2015). HARP CONVERSION was used to adjust the AERMOD-predicted air concentrations calculated with unit emission rates to pollutant-specific emission rates and to generate source, X/Q and emission import files for HARP.

The files generated in HARP CONVERSION were then uploaded into the HARP to HARP 2 Converter (Villalvazo 2015), then to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA).

HARP post-processing was used to assess the potential for excess chronic non-cancer effects and cancer risk using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for the mandatory minimum pathways. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted at each receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}) and 1.0, respectively for the proposed Project. The PMIs, are identified by receptor location and risk, and are provided in **Table 4-6**. The electronic AERMOD and HARP2 output files are provided in **Attachment E**.

Table 4-6 – Potential Maximum Impacts Predicted By HARP

	Value	UTM East Coordinate	UTM North Coordinate
Excess Cancer Risk	1.20E-06	295219.37	3889684.04
Chronic Hazard Index	1.80E-01	295219.37	3889684.04
Acute Hazard Index	3.93E-01	295212.00	3889409.53
UTM = Universal Transverse Mercator			

As shown above in **Table 4-6**, the maximum predicted cancer risk for the proposed Project is 1.20 in a million. The maximum chronic non-cancer hazard index for the proposed Project is 0.180. The maximum acute non-cancer hazard index for the proposed Project is 0.393. Since the PMI remained below the significance threshold for cancer, chronic, and acute risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be less than significant based on the following conclusions:

1) Potential carcinogenic risk from the proposed Project is *below* the significance level of twenty in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.
3) The hazard index for the potential acute non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant*.

4.7. ODOR IMPACTS AND MITIGATION

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

GAMAQI also states "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because operation of the Project is a state of the art covered and aerated static pile composting facility which utilizes a biofilter, it has not and is not expected to cause a public nuisance due to odor. The anticipated Project site is not listed in Table 6 of the GAMAQI as a source which would create objectionable odors, therefore the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the Project emission estimates indicate that the proposed Project would not be expected to adversely impact surrounding receptors. As such, the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

When the Project site was originally developed, the regulations of the California Integrated Waste Management Board, Title 14, CCR Section 17863.4 required all compostable material handling operations and facilities to prepare and maintain a site-specific Odor Impact Minimization Plan (OIMP) to minimize the potential for nuisance-level off-site odors. Synagro's SKIC facility developed an OIMP and maintains the plan with oversight by the Kern County Environmental Health Services Department.

In order to continue compliance with the OIMP, the plan will be updated to reflect the changes planned by the current project and will make adjustments to the Odor Monitoring Protocol, Operating Procedures to Minimize Odor and Contingency Plans as necessary. These changes to the OIMP will further ensure that the Project will not impact nearby receptors.

4.8. IMPACTS TO AMBIENT AIR QUALITY

An ambient air quality analysis, when required, determines if the proposed Project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. As demonstrated in *Section 4.2.2 Long Term Operational Emissions*, the Project's potential increase to any criteria pollutants is negligible and would not be anticipated to cause an exceedance of any ambient air quality thresholds; therefore, an ambient air quality analysis was not required. Therefore, the Project's contribution to potential violations of ambient air quality standards would be l*ess-than-significant*.

4.9. IMPACTS TO GREENHOUSE GASES AND CLIMATE CHANGE

The proposed Project's operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2) for on-site mobile equipment, EMFAC2017 for on-road vehicles, Emission Estimation Methodology for Off-Highway Recreational Vehicles (CARB 2013) for on-site ATVs, California Climate Action Registry General Reporting Protocol Version 3.1 for electricity and water usage emissions and WARM (version 14) for composting emissions. Composting has GHG benefits including decreased soil erosion and decreased fertilizer usage which are taken into account by the WARM model when calculating GHG emissions. These emissions are summarized in Table 4-7.

Table 4-7 – Estimated Annual GHG Emissions (MT/Year)

Source	CO_2e
Mobile Incremental Emissions	-640.34
Stationary Source Emissions	-74279.34
Energy Emissions	1,204
Water Usage Emissions	5.73
Project Emissions	**-73,709.84**

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. In order for the Project to be considered less than significant, it would need to conform to the goals of AB32. The proposed Project will have an overall net decrease in incremental GHG emissions due to the benefits of composting including decreased soil erosion and decreased fertilizer usage. Therefore, the GHG incremental emissions associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

4.9.1. Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented, which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether a Project individually would have a significant impact on global warming or climate change, a Project would potentially contribute to cumulative GHG emissions in California as well as to related health effects. A Project's emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines

Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems, the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32, which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's CO_2 contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-8 – Select CARB GHG Emission Reduction Strategies

Strategy	Description of Strategy
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling. These requirements are specified in Title 13, California Code of Regulations §2449(d)(2).
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The proposed Project will have an overall net decrease in incremental GHG emissions due to the benefits of composting including decreased soil erosion and decreased fertilizer usage. Therefore, the GHG incremental emissions associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

5. CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CEQA Guidelines §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3), 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, including, but not limited to, an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015a)

GAMAQI also states "*If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant.*" (SJVAPCD 2015a). Based on the analysis conducted for this Project, it is individually *less than significant*. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NO_x) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NO_x in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM_{10} if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the SJVAPCD recommended screening radius of one mile.

5.1. CUMULATIVE REGIONAL AIR QUALITY IMPACTS

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards (SJVAPCD 2007). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

Table 5-1 – Comparative Analysis Based on SJV Air Basin 2015 Inventory

Emissions Inventory Source	Pollutant (tons/year)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Kern County - 2015[1]	22,484	20,842	33,872	511	13,688	3,833
SJVAB - 2015[1]	112,931	96,105	199,509	2,738	95,667	21,681
Proposed Project Incremental	**-2.43**	**-24.02**	**-7.78**	**0.00**	**-1.45**	**-1.37**
Proposed Project's % of Kern [2]	0.00	0.00	0.00	0.00	0.00	0.00
Proposed Project's % of SJVAB [2]	0.00	0.00	0.00	0.00	0.00	0.00

NOTES:
[1] This is the latest inventory available as of June 2018, excluding Natural Sources.
[2] 0.00 represents less than 0 percent since the Project's incremental emissions are less than 0.
SOURCE: CARB 2018b

As shown in Table 5-1 the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through 5-4 provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kern County. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kern County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kern County and the entire SJVAB.

Table 5-2 – Emission Inventory SJVAB 2020 Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	108,113	74,205	162,425
Percent Stationary Sources	30.83%	14.07%	6.22%
Percent Area-Wide Sources	51.59%	3.89%	11.96%
Percent Mobile Sources	17.57%	82.05%	81.82%
Total Stationary Source Emissions	33,335	10,439	10,111
Total Area-Wide Source Emissions	55,779	2,884	19,418
Total Mobile Source Emissions	18,991	60,882	132,897

Source: CARB 2018b
Note: Total may not add due to rounding.

Table 5-3 - Emission Inventory Kern County 2020 Estimate
Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	21,535	15,878	27,339
Percent Stationary Sources	52.03%	18.39%	14.82%
Percent Area-Wide Sources	33.73%	2.76%	6.94%
Percent Mobile Sources	14.24%	78.62%	78.24%
Total Stationary Source Emissions	11,206	2,920	4,052
Total Area-Wide Source Emissions	7,264	438	1898
Total Mobile Source Emissions	3,066	12,483	21,389

Source: CARB 2018b
Note: Total may not add due to rounding.

Table 5-4 - 2020 Emissions Projections – Proposed Project, Kern County, and San Joaquin Valley Air Basin

	ROG	NO_X	PM_{10}
Proposed Project	**-2.43**	**-24.02**	**-1.45**
Kern County	21,535	15,878	13,651
SJVAB	108,113	74,205	96,652
Proposed Project Percent of Kinga County	0.00%	0.00%	0.00%
Proposed Project Percent of SJVAB	0.00%	0.00%	0.00%
Kern County Percent of SJVAB	19.92%	21.40%	14.12%

Source: CARB 2018b
Notes: The emission estimates for Kern County and the SJVAB are based on 2020 projections. The Proposed Project emission estimates are for the proposed emissions that are not already included in the SJVAB Emissions Inventory. Project emissions are based on 2019 emissions estimates to present the most conservative comparison. The Project's emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions.

As shown above, the proposed Project would pose no impact on regional O_3 and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

5.2. CUMULATIVE LOCAL AIR QUALITY IMPACTS

KCPD provided a list of other projects within a one-mile and six-mile radius of the proposed Project. **Attachment E** contains a list of the 123 other projects located within six miles of the Proposed Project. *The number or size of cumulative projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD or the Kern County Community Development Agency*. Because the proposed Project would have a decrease in incremental emissions, the Project-related operational impacts from criteria air pollutants are less than significant, additionally, the Project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.3. CUMULATIVE HAZARDOUS AIR POLLUTANTS

The GAMAQI 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.*" Because the Project would not be a significant sources of HAPS, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

5.4. 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 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 one or more intersections in the project vicinity.

According to the Project applicant, a traffic generation assessment impact study has been prepared for this project and determined that no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels and the Project will not reduce any street or intersection to a LOS E or F and will not worsen any already existing LOS F of any street or intersection after mitigation (Ruettgers & Schuler 2019). Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Kern County are controlled through policies and provisions of the SJVAPCD and the Kern County General Plan (KCCDA 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review 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 (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1. REQUIRED EVALUATION GUIDELINES

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. The proposed project is included within the growth projected in the Kern County General Plan.
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed project was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. The findings of the analysis show that the Project's no employment increases are planned for the project area; and
2. That, by definition, the proposed emissions from the project are below the SJVAPCD's established emissions impact thresholds

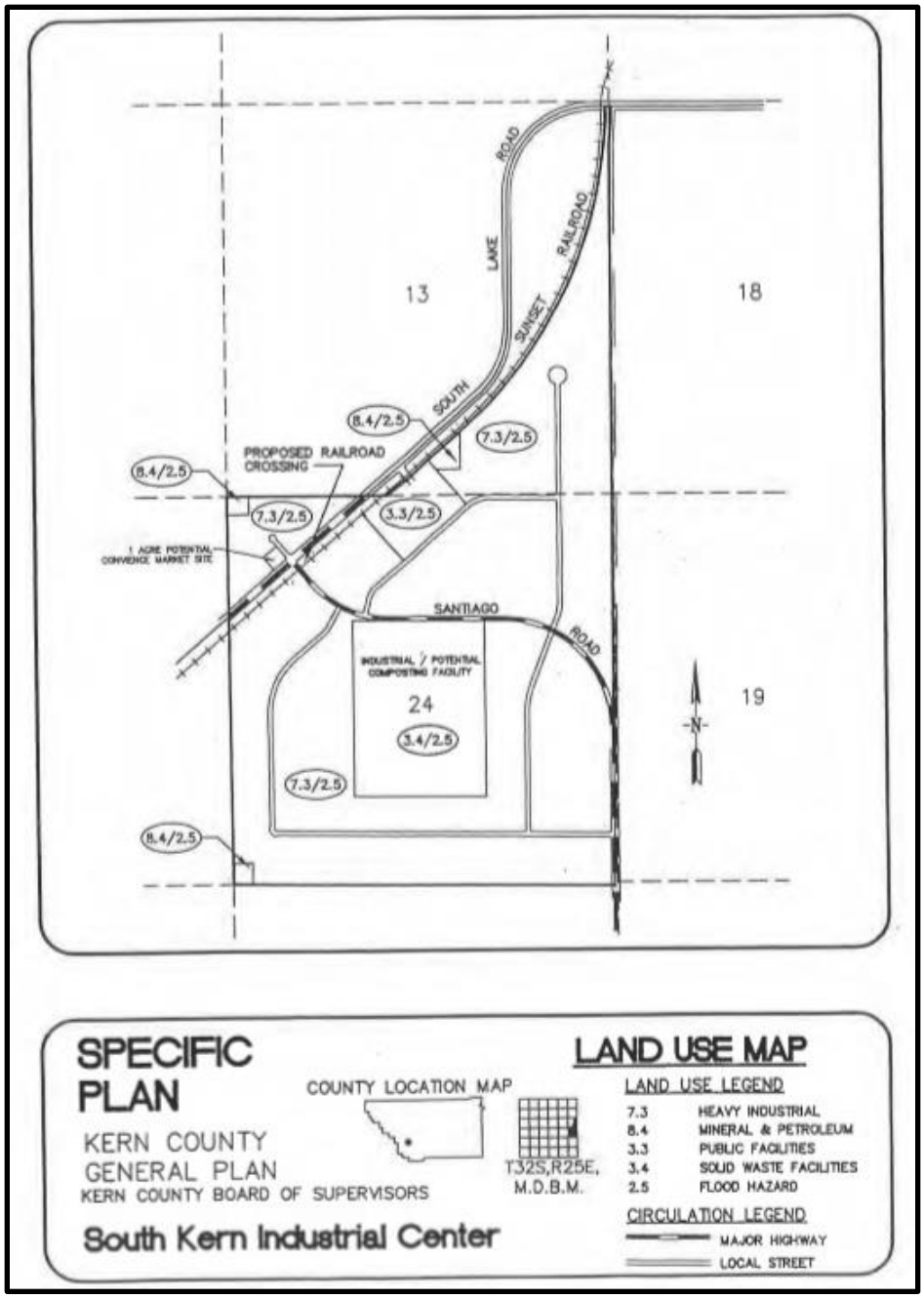
Based on these factors, the project appears to be *consistent with the AQAP*.

6.2. CONSISTENCY WITH THE KERN COUNTY ASSOCIATION OF GOVERNMENT'S AIR QUALITY CONFORMITY ANALYSIS

The Kern Council of Governments (Kern COG) Regional Conformity Analysis (Kern COG 2002) 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 the CARB's SIP for each area's non-attainment pollutants (CO, O_3 and PM_{10}). 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 (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current South Kern Industrial Center Specific Plan, the project site is designated as "3.4 Solid Waste Facility" (see **Figure 6-1**).

Figure 6-1 – SKIC Specific Plan Zoning



Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on Kern COG regional forecast was conducted. Since no employment increase is proposed the forecast for the analysis area will be sufficient for the proposed Project.

7. MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed Project would be *less than significant*, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval:

7.1. SJVAPCD REQUIRED PM_{10} REDUCTION MEASURES

As the project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20 percent opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20 percent opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, by using chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20 percent opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2. OTHER MEASURES TO REDUCE PROJECT IMPACTS

The following measures are recommended to further reduce the potential for long-term emissions from the Project (if applicable). These measures are required as a matter of regulatory compliance:

- The project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy, if applicable.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD, if applicable.

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would result in short-term air quality impacts due to construction activities as well as vehicular emissions, but these emissions do not exceed applicable thresholds of significance. Accordingly, these impacts *were found to be less than significant*.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions, but these emissions do not exceed applicable thresholds of significance. Accordingly, these impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future Projects will result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would decrease emissions and are therefore below thresholds of significance and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future projects would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts would decrease emissions and are therefore below thresholds of significance and are considered *less than significant.*

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ATTACHMENT A: EXISTING AIR QUALITY MONITORING DATA

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Bakersfield-5558 California Avenue

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Sep 9	54.5	Oct 21	58.1	Dec 15	66.0
Second High:	Nov 21	52.7	Oct 22	55.1	Dec 14	63.1
Third High:	Oct 12	52.5	Sep 27	54.8	Nov 22	61.5
Fourth High:	Jan 8	52.2	Nov 14	54.6	Dec 29	61.1
California:						
First High:	Sep 9	54	Oct 21	58	Dec 15	66
Second High:	Jan 8	52	Oct 22	55	Dec 14	63
Third High:	Oct 12	52	Sep 27	54	Nov 22	61
Fourth High:	Nov 21	52	Nov 14	54	Dec 12	61
National:						
1-Hour Standard Design Value:	*		*		52	
1-Hour Standard 98th Percentile:	49.5		49.8		58.1	
# Days Above the Standard:	0		0		0	
Annual Standard Design Value:	11		12		13	
California:						
1-Hour Std Designation Value:	60		60		60	
Expected Peak Day Concentration:	57		57		63	
# Days Above the Standard:	0		0		0	
Annual Std Designation Value:	11		12		12	
Annual Average:	11		12		12	
Year Coverage:	97		93		97	

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Bakersfield-Municipal Airport

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Oct 13	55.0	Nov 14	58.1	Oct 16	62.5
Second High:	Oct 9	53.0	Sep 8	56.1	Dec 11	60.4
Third High:	Jan 8	51.0	Oct 22	50.2	Dec 15	59.3
Fourth High:	Jan 5	46.0	Nov 7	49.4	Dec 12	56.4
California:						
First High:	Oct 13	55	Nov 14	58	Oct 16	62
Second High:	Oct 9	53	Sep 8	56	Dec 11	60
Third High:	Jan 8	51	Oct 22	50	Dec 15	59
Fourth High:	Jan 5	46	Nov 7	49	Dec 12	56
National:						
1-Hour Standard Design Value:	52		48		48	
1-Hour Standard 98th Percentile:	45.0		45.2		52.9	
# Days Above the Standard:	0		0		0	
Annual Standard Design Value:	12		11		13	
California:						
1-Hour Std Designation Value:	70		60		60	
Expected Peak Day Concentration:	66		62		59	
# Days Above the Standard:	0		0		0	
Annual Std Designation Value:	14		13		12	
Annual Average:	12		11		12	
Year Coverage:	89		99		95	

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Bakersfield-5558 California Avenue

iADAM

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Sep 25	0.104	Jun 5	0.092	Sep 2	0.122
Second High:	Oct 9	0.099	Jul 26	0.091	Sep 1	0.104
Third High:	Jul 29	0.097	Oct 22	0.091	Aug 29	0.101
Fourth High:	Sep 9	0.097	Jul 2	0.090	Jun 23	0.099
California:						
# Days Above the Standard:	6		0		11	
California Designation Value:	0.10		0.10		0.10	
Expected Peak Day Concentration:	0.098		0.097		0.100	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.099*		*0.098*		*0.101*	
Year Coverage:	99		98		99	

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Maricopa-Stanislaus Street

iADAM

	2015		2016		2017	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Sep 9	0.094	Jul 28	0.092	Sep 2	0.117
Second High:	Sep 25	0.092	Jul 15	0.088	Oct 17	0.093
Third High:	Sep 10	0.090	Jul 24	0.088	Oct 18	0.089
Fourth High:	Sep 20	0.088	Jul 1	0.087	May 23	0.086
California:						
# Days Above the Standard:	0		0		1	
California Designation Value:	0.09		0.09		0.09	
Expected Peak Day Concentration:	0.091		0.089		0.091	
National:						
# Days Above the Standard:	*0*		*0*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.0*		*0.0*	
Nat'l Standard Design Value:	*0.090*		*0.090*		*0.092*	
Year Coverage:	95		97		96	

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Maricopa-Stanislaus Street between 1987 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Bakersfield-5558 California Avenue

iADAM

	2015		2016		2017	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Sep 25	0.096	Jul 15	0.085	Sep 2	0.104
Second High:	Oct 9	0.090	Aug 13	0.084	Sep 1	0.094
Third High:	Sep 20	0.089	Sep 7	0.083	Aug 29	0.092
Fourth High:	Jun 25	0.088	Jul 1	0.082	Aug 28	0.089
California Std (0.070 ppm):						
First High:	Sep 25	0.097	Jul 15	0.086	Sep 2	0.104
Second High:	Oct 9	0.091	Aug 13	0.084	Sep 1	0.095
Third High:	Jun 25	0.089	Aug 29	0.083	Aug 29	0.092
Fourth High:	Jun 30	0.089	Sep 7	0.083	Aug 28	0.089
National 2015 Std (0.070 ppm):						
# Days Above the Standard:	52		60		85	
Nat'l Standard Design Value:	0.085		0.084		0.086	
National Year Coverage:	100		99		100	
California Std (0.070 ppm):						
# Days Above the Standard:	54		63		87	
California Designation Value:	0.097		0.093		0.095	
Expected Peak Day Concentration:	0.097		0.094		0.095	
California Year Coverage:	99		98		99	

◄ Shift Backward 1 year Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in parts per million.

orange exceeds a national ambient air quality standard.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Maricopa-Stanislaus Street

	2015		2016		2017	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Sep 9	0.087	Jul 28	0.087	Sep 2	0.093
Second High:	Sep 20	0.086	Jul 15	0.085	Oct 17	0.084
Third High:	Sep 25	0.086	Jul 1	0.083	May 23	0.083
Fourth High:	Jun 13	0.083	Jul 24	0.083	Sep 1	0.083
California Std (0.070 ppm):						
First High:	Sep 9	0.088	Jul 28	0.087	Sep 2	0.094
Second High:	Sep 20	0.087	Jul 15	0.085	Sep 1	0.084
Third High:	Sep 25	0.086	Jul 1	0.083	Oct 17	0.084
Fourth High:	Jun 13	0.083	Jul 24	0.083	May 23	0.083
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		32		50		38
Nat'l Standard Design Value:		0.079		0.081		0.083
National Year Coverage:		96		98		96
California Std (0.070 ppm):						
# Days Above the Standard:		32		55		42
California Designation Value:		0.088		0.087		0.088
Expected Peak Day Concentration:		0.088		0.087		0.089
California Year Coverage:		93		97		96

◄ Shift Backward 1 year Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Maricopa-Stanislaus Street between 1987 and 2017. Some years in this range may not be represented.

All averages expressed in parts per million.

orange exceeds a national ambient air quality standard.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Bakersfield-5558 California Avenue

iADAM

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 10	107.8	Dec 21	66.4	Dec 28	101.8
Second High:	Jan 9	88.9	Dec 22	63.6	Dec 31	88.1
Third High:	Jan 8	87.0	Nov 9	55.7	Dec 30	82.9
Fourth High:	Jan 7	84.7	Jan 1	54.6	Dec 10	76.5
California:						
First High:	Jan 10	111.9	Dec 21	66.4	Dec 28	101.8
Second High:	Jan 9	92.0	Dec 22	63.6	Dec 31	88.1
Third High:	Jan 8	87.7	Nov 9	57.4	Dec 30	82.9
Fourth High:	Jan 7	84.7	Jan 1	54.6	Dec 10	76.5
National:						
Estimated # Days > 24-Hour Std:		32.3		25.5		30.2
Measured # Days > 24-Hour Std:		29		23		28
24-Hour Standard Design Value:		70		61		59
24-Hour Standard 98th Percentile:		57.2		47.0		71.8
2006 Annual Std Design Value:		18.3		16.5		15.7
2013 Annual Std Design Value:		18.3		16.5		15.7
Annual Average:		16.2		14.7		15.9
California:						
Annual Std Designation Value:		19		19		16
Annual Average:		16.6		16.0		15.9
Year Coverage:		91		90		94

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-5558 California Avenue between 1999 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Bakersfield-Golden State Highway

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 9	91.1	Dec 20	53.9	Dec 15	74.3
Second High:	Jan 6	70.0	Dec 29	52.7	Dec 30	74.1
Third High:	Jan 18	51.5	Jan 1	51.4	Dec 12	71.3
Fourth High:	Feb 20	50.3	Feb 6	48.8	Dec 24	68.6
California:						
First High:	Jan 9	91.1	Dec 20	53.9	Dec 15	74.3
Second High:	Jan 6	70.0	Dec 29	52.7	Dec 30	74.1
Third High:	Jan 18	51.5	Jan 1	51.4	Dec 12	71.3
Fourth High:	Feb 20	50.3	Feb 6	48.8	Dec 24	68.6

National:			
Estimated # Days > 24-Hour Std:	30.8	21.8	29.7
Measured # Days > 24-Hour Std:	9	7	9
24-Hour Standard Design Value:	*	70	58
24-Hour Standard 98th Percentile:	51.5	51.4	71.3
2006 Annual Std Design Value:	*	*	15.9
2013 Annual Std Design Value:	*	16.5	15.9
Annual Average:	16.6	14.8	16.1
California:			
Annual Std Designation Value:	17	17	17
Annual Average:	16.7	14.8	16.2
Year Coverage:	92	96	88

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-Golden State Highway between 1999 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

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* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Bakersfield-5558 California Avenue

iADAM

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Sep 9	104.7	Feb 12	90.9	Dec 15	138.0
Second High:	Jan 6	97.7	Sep 9	79.9	Dec 9	106.7
Third High:	Oct 9	82.3	Nov 8	79.5	Dec 27	94.9
Fourth High:	Nov 14	78.1	Oct 22	71.4	Oct 17	90.9
California:						
First High:	Jan 6	103.6	Feb 12	92.2	Dec 15	143.6
Second High:	Sep 9	99.6	Nov 8	80.6	Dec 9	112.1
Third High:	Oct 9	80.1	Sep 9	78.1	Dec 27	99.5
Fourth High:	Nov 14	79.1	Dec 20	72.2	Oct 17	90.9

National:			
Estimated # Days > 24-Hour Std:	0.0	0.0	0.0
Measured # Days > 24-Hour Std:	0	0	0
3-Yr Avg Est # Days > 24-Hr Std:	*	*	0.0
Annual Average:	*44.5*	*41.2*	*42.6*
3-Year Average:	*50*	*46*	*43*
California:			
Estimated # Days > 24-Hour Std:	121.4	121.4	98.7
Measured # Days > 24-Hour Std:	20	21	16
Annual Average:	44.1	40.9	42.6
3-Year Maximum Annual Average:	44	44	44
Year Coverage:	99	97	98

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

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An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

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Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Bakersfield-Golden State Highway

iADAM

	2015		2016		2017	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Sep 9	100.5	Oct 21	91.6	Dec 15	158.2
Second High:	Nov 14	81.6	Nov 8	88.2	Dec 9	109.6
Third High:	Oct 9	80.8	Sep 9	87.9	Dec 27	101.4
Fourth High:	Aug 16	76.7	Sep 21	86.8	Oct 16	98.3
California:						
First High:	Sep 9	94.6	Oct 21	91.6	Dec 15	165.1
Second High:	Nov 14	83.1	Nov 8	89.2	Dec 9	115.4
Third High:	Oct 9	78.4	Nov 14	87.8	Dec 27	106.5
Fourth High:	Dec 2	78.2	Sep 9	85.7	Oct 16	100.3

National:			
Estimated # Days > 24-Hour Std:	*	0.0	6.1
Measured # Days > 24-Hour Std:	0	0	1
3-Yr Avg Est # Days > 24-Hr Std:	*	*	*
Annual Average:	*47.0*	*47.5*	*48.3*
3-Year Average:	*	*	*48*
California:			
Estimated # Days > 24-Hour Std:	*	157.9	145.5
Measured # Days > 24-Hour Std:	16	26	24
Annual Average:	*	47.3	48.4
3-Year Maximum Annual Average:	*	47	48
Year Coverage:	73	100	100

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-Golden State Highway between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

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* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

View a Different Site
View a Different Substance
Order a Data CD

Annual Toxics Summary

Bakersfield-5558 California Avenue

Lead

nanograms per cubic meter

iADAM
FAQs

Read About New Estimated Risk

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2017	---▪--------	0.65	3.5	*	7.5	12.6	2.60	29	1.3	*
2016	----------▪	0.65	4.3	*	6.9	19.8	3.57	33	1.3	*
2015	----------	0.65	3.2	3.34	7.6	9.5	2.50	33	1.3	0.1
2014	▪▪▪▪▪▪-------	0.85	3.6	*	8.8	14	3.78	16	1.7	*
2013	--▪------▪▪▪	0.5	2.9	*	5.3	6.7	1.71	21	1.0	*
2012	----------	1.7	3.4	4.02	8.2	14	2.74	32	1.5	0.1
2011	-▪▪▪▪▪------	0.75	4.0	*	9.1	11	2.90	20	1.5	*
2010	▪▪▪▪--------	0.75	2.5	*	5.7	8.2	2.07	18	1.5	*
2009	----------	1.5	4.5	5.27	11.2	14	3.22	29	1.5	0.2
2008	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
2007	---------▪▪-	0.75	7.1	*	11.7	13	3.23	24	1.5	*
2006	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
2005	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
2004	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
2003	--▪▪▪▪▪▪▪▪▪▪	4.0	*	*	*	7.0	1.64	5	3.0	*
2002	----------	1.5	7.0	6.78	10	17	3.34	36	3.0	0.2
2001	----------	2	5.0	5.83	9.2	26	4.41	39	4.0	0.2
2000	----------	2	5.0	5.92	14.1	22	4.76	40	4.0	0.2
1999	----------	2	5.0	5.70	11.2	25	4.55	39	4.0	0.2
1998	----------	2	7.0	9.43	14	78	11.8	42	4.0	0.3
1997	----------	2	7.0	7.92	14	20	4.40	34	4.0	0.3
1996	----------	2	7.0	7.69	14.5	35	6.10	36	4.0	0.3
1995	----------	2	8.0	8.68	15.1	21	5.14	30	4.0	0.3
1994	▪▪▪▪--------	2	10	*	16	39	7.11	25	4.0	*
1993	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
1992	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
1991	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
1990	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*
1989	▪▪▪▪▪▪▪▪▪▪	*	*	*	*	*	*	0	*	*

ATTACHMENT B: PROJECT EMISSION CALCULATIONS

Synagro Construction

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro Construction - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Construction Phase - Actual Construction Days

Off-road Equipment - Estimated Construction Activity

Demolition -

Off-road Equipment - Estimated Construction Activity

Trips and VMT - Estimated Construction work force including 2 trips a day for water trucks

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	120.00
tblConstructionPhase	NumDays	75.00	20.00
tblConstructionPhase	PhaseEndDate	1/13/2023	12/13/2019
tblConstructionPhase	PhaseEndDate	3/13/2020	6/28/2019
tblConstructionPhase	PhaseStartDate	3/14/2020	6/29/2019
tblConstructionPhase	PhaseStartDate	11/30/2019	6/1/2019
tblGrading	AcresOfGrading	62.50	187.50
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Scrapers
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Graders
tblOffRoadEquipment	OffRoadEquipmentType	Generator Sets	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rubber Tired Dozers

tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Welders	Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	0.00	19.00
tblTripsAndVMT	WorkerTripNumber	18.00	19.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3993	4.5427	2.6254	5.1000e-003	0.1922	0.1959	0.3881	0.0568	0.1802	0.2370	0.0000	458.4632	458.4632	0.1397	0.0000	461.9563
Maximum	**0.3993**	**4.5427**	**2.6254**	**5.1000e-003**	**0.1922**	**0.1959**	**0.3881**	**0.0568**	**0.1802**	**0.2370**	**0.0000**	**458.4632**	**458.4632**	**0.1397**	**0.0000**	**461.9563**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3993	4.5427	2.6254	5.1000e-003	0.0856	0.1959	0.2815	0.0250	0.1802	0.2052	0.0000	458.4626	458.4626	0.1397	0.0000	461.9558
Maximum	**0.3993**	**4.5427**	**2.6254**	**5.1000e-003**	**0.0856**	**0.1959**	**0.2815**	**0.0250**	**0.1802**	**0.2052**	**0.0000**	**458.4626**	**458.4626**	**0.1397**	**0.0000**	**461.9558**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**55.44**	**0.00**	**27.46**	**55.99**	**0.00**	**13.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-12-2019	9-30-2019	1.2608	1.2608
		Highest	1.2608	1.2608

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2019	6/28/2019	5	20	
2	Building Construction	Building Construction	6/29/2019	12/13/2019	5	120	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	10.00	158	0.38
Building Construction	Scrapers	2	10.00	367	0.48
Building Construction	Graders	1	10.00	187	0.41
Building Construction	Rollers	2	10.00	80	0.38
Grading	Rubber Tired Dozers	1	10.00	247	0.40
Building Construction	Rubber Tired Dozers	1	10.00	247	0.40
Grading	Graders	1	10.00	187	0.41
Grading	Rollers	2	10.00	80	0.38
Grading	Scrapers	2	10.00	367	0.48
Building Construction	Excavators	1	10.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	19.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	19.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1747	0.0000	0.1747	0.0521	0.0000	0.0521	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0558	0.6456	0.3665	7.0000e-004		0.0280	0.0280		0.0257	0.0257	0.0000	62.7452	62.7452	0.0199	0.0000	63.2415
Total	**0.0558**	**0.6456**	**0.3665**	**7.0000e-004**	**0.1747**	**0.0280**	**0.2027**	**0.0521**	**0.0257**	**0.0778**	**0.0000**	**62.7452**	**62.7452**	**0.0199**	**0.0000**	**63.2415**

3.2 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.5600e-003	5.2000e-004	1.0000e-005	1.2000e-004	2.0000e-005	1.4000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.5160	0.5160	5.0000e-005	0.0000	0.5172
Worker	1.1200e-003	8.3000e-004	8.0000e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.2336	2.2336	6.0000e-005	0.0000	2.2351
Total	**1.2100e-003**	**3.3900e-003**	**8.5200e-003**	**3.0000e-005**	**2.5000e-003**	**4.0000e-005**	**2.5400e-003**	**6.6000e-004**	**4.0000e-005**	**7.0000e-004**	**0.0000**	**2.7496**	**2.7496**	**1.1000e-004**	**0.0000**	**2.7523**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0681	0.0000	0.0681	0.0203	0.0000	0.0203	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0558	0.6456	0.3665	7.0000e-004		0.0280	0.0280		0.0257	0.0257	0.0000	62.7451	62.7451	0.0199	0.0000	63.2414
Total	**0.0558**	**0.6456**	**0.3665**	**7.0000e-004**	**0.0681**	**0.0280**	**0.0961**	**0.0203**	**0.0257**	**0.0460**	**0.0000**	**62.7451**	**62.7451**	**0.0199**	**0.0000**	**63.2414**

3.2 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.5600e-003	5.2000e-004	1.0000e-005	1.2000e-004	2.0000e-005	1.4000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.5160	0.5160	5.0000e-005	0.0000	0.5172
Worker	1.1200e-003	8.3000e-004	8.0000e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.2336	2.2336	6.0000e-005	0.0000	2.2351
Total	**1.2100e-003**	**3.3900e-003**	**8.5200e-003**	**3.0000e-005**	**2.5000e-003**	**4.0000e-005**	**2.5400e-003**	**6.6000e-004**	**4.0000e-005**	**7.0000e-004**	**0.0000**	**2.7496**	**2.7496**	**1.1000e-004**	**0.0000**	**2.7523**

3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3349	3.8734	2.1992	4.1900e-003		0.1677	0.1677		0.1543	0.1543	0.0000	376.4711	376.4711	0.1191	0.0000	379.4489
Total	**0.3349**	**3.8734**	**2.1992**	**4.1900e-003**		**0.1677**	**0.1677**		**0.1543**	**0.1543**	**0.0000**	**376.4711**	**376.4711**	**0.1191**	**0.0000**	**379.4489**

3.3 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0154	3.0900e-003	3.0000e-005	7.2000e-004	1.1000e-004	8.3000e-004	2.1000e-004	1.1000e-004	3.1000e-004	0.0000	3.0960	3.0960	2.8000e-004	0.0000	3.1031
Worker	6.7500e-003	5.0100e-003	0.0480	1.5000e-004	0.0143	1.0000e-004	0.0144	3.7900e-003	9.0000e-005	3.8900e-003	0.0000	13.4013	13.4013	3.7000e-004	0.0000	13.4106
Total	**7.3000e-003**	**0.0204**	**0.0511**	**1.8000e-004**	**0.0150**	**2.1000e-004**	**0.0152**	**4.0000e-003**	**2.0000e-004**	**4.2000e-003**	**0.0000**	**16.4973**	**16.4973**	**6.5000e-004**	**0.0000**	**16.5137**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3349	3.8734	2.1992	4.1900e-003		0.1677	0.1677		0.1543	0.1543	0.0000	376.4706	376.4706	0.1191	0.0000	379.4484
Total	**0.3349**	**3.8734**	**2.1992**	**4.1900e-003**		**0.1677**	**0.1677**		**0.1543**	**0.1543**	**0.0000**	**376.4706**	**376.4706**	**0.1191**	**0.0000**	**379.4484**

3.3 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0154	3.0900e-003	3.0000e-005	7.2000e-004	1.1000e-004	8.3000e-004	2.1000e-004	1.1000e-004	3.1000e-004	0.0000	3.0960	3.0960	2.8000e-004	0.0000	3.1031
Worker	6.7500e-003	5.0100e-003	0.0480	1.5000e-004	0.0143	1.0000e-004	0.0144	3.7900e-003	9.0000e-005	3.8900e-003	0.0000	13.4013	13.4013	3.7000e-004	0.0000	13.4106
Total	**7.3000e-003**	**0.0204**	**0.0511**	**1.8000e-004**	**0.0150**	**2.1000e-004**	**0.0152**	**4.0000e-003**	**2.0000e-004**	**4.2000e-003**	**0.0000**	**16.4973**	**16.4973**	**6.5000e-004**	**0.0000**	**16.5137**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.472669	0.031291	0.166276	0.125679	0.021211	0.006775	0.020722	0.144029	0.001634	0.001785	0.006011	0.000972	0.000946

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Baseline Non-Stationary Operational Emissions Summary							
	Annual Emissions (tons/year)						(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	CO2e
2017	1.68	20.83	8.87	0.04	5.62	1.30	3833.54
2016	2.63	33.61	12.05	0.06	6.25	1.80	6297.71
2015	3.40	41.33	15.34	0.06	6.71	2.22	6868.66
2014	3.84	46.75	16.98	0.07	6.97	2.45	7323.57
2013	4.34	50.99	18.88	0.07	7.26	2.72	7445.85
2012	5.40	61.55	22.72	0.07	7.93	3.34	8044.58
2011	5.96	68.69	24.54	0.08	8.23	3.62	8293.59
2010	6.08	70.28	25.30	0.08	8.33	3.72	8200.10
2009	6.64	77.09	27.40	0.08	8.70	4.06	8736.84
2008	6.69	76.95	28.10	0.08	8.78	4.14	8465.49
10-Year Average	**4.67**	**54.81**	**20.02**	**0.07**	**7.48**	**2.94**	**7350.99**

Baseline Stationary Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
2017	9.69	0.43	0.09	0.14	0.02	0.02	8.91	-12580.46
2016	30.24	0.13	0.01	0.13	0.02	0.02	27.83	-39801.81
2015	30.03	0.13	0.01	0.13	0.02	0.02	27.64	-39441.78
2014	31.82	0.13	0.01	0.13	0.02	0.02	29.28	-41743.11
2013	29.59	0.13	0.01	0.13	0.02	0.02	27.23	-38925.81
2012	33.22	0.13	0.01	0.13	0.02	0.02	30.57	-43476.19
2011	35.28	0.13	0.01	0.13	0.02	0.02	32.47	-45916.16
2010	35.39	0.13	0.01	0.13	0.02	0.02	32.58	-46300.00
2009	36.41	0.13	0.01	0.13	0.02	0.02	33.52	-47455.60
2008	34.08	0.13	0.01	0.13	0.02	0.02	31.36	-18750.68
10-Year Average	**30.58**	**0.16**	**0.02**	**0.13**	**0.02**	**0.02**	**28.14**	**-37439.16**

Baseline Total Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
2017	11.37	21.27	8.96	0.17	5.64	1.32	8.91	-8746.92
2016	32.87	33.74	12.06	0.19	6.27	1.82	27.83	-33504.10
2015	33.43	41.46	15.35	0.19	6.73	2.24	27.64	-32573.12
2014	35.66	46.88	16.99	0.20	6.99	2.47	29.28	-34419.54
2013	33.92	51.12	18.89	0.20	7.28	2.74	27.23	-31479.96
2012	38.62	61.68	22.73	0.20	7.95	3.36	30.57	-35431.61
2011	41.24	68.82	24.55	0.21	8.25	3.64	32.47	-37622.56
2010	41.48	70.41	25.31	0.21	8.35	3.75	32.58	-38099.90
2009	43.05	77.22	27.41	0.21	8.73	4.08	33.52	-38718.76
2008	40.77	77.08	28.11	0.21	8.81	4.17	31.36	-10285.19
10-Year Average	**35.24**	**54.97**	**20.04**	**0.20**	**7.50**	**2.96**	**28.14**	**-30088.17**

Project Operational Delivery Trucks T7 Exhaust Emissions - EMFAC2017

Based on:

80% Waste Trips Miles/Trip:	250	(Average Roundtrip Distance from trips originating in LA and Orange Counties)
20% Waste Trips Miles/Trip:	50	(Average Roundtrip Distance from trips originating locally)
20% Product Trips Miles/Trip:	250	(Average Roundtrip Distance from trips heading to LA and Orange Counties)
40% Product Trips Miles/Trip:	150	(Average Roundtrip Distance from trips heading to northern locations)
40% Product Trips Miles/Trip:	50	(Average Roundtrip Distance from trips heading locally)

	Waste Trips	Waste Tons	Product Trips	Product Tons	Annual Miles	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	3402	80841.83	4743	115656.96	1331010	0.65	10.87	2.07	0.02	0.43	0.32	2489.73	0.03	0.39	2611.68
2016 Tons/year	10780	252615.85	2199	54293.24	2549670	1.52	22.82	4.90	0.05	0.98	0.77	4820.80	0.07	0.76	5057.19
2015 Tons/year	10147	250836	4462	110570.36	2710930	2.19	29.56	7.14	0.05	1.36	1.13	5267.68	0.10	0.83	5526.49
2014 Tons/year	10752	265774.34	4604	112689.14	2856440	2.58	34.56	8.41	0.05	1.59	1.34	5687.61	0.12	0.89	5966.94
2013 Tons/year	10044	247146.98	5749	142878.35	2856610	2.97	37.90	9.68	0.05	1.82	1.56	5793.69	0.14	0.91	6078.51
2012 Tons/year	11076	277476.74	5893	148592.59	3092050	3.96	47.75	13.06	0.06	2.44	2.13	6354.25	0.18	1.00	6667.09
2011 Tons/year	11953	294721.71	5232	133587.49	3190290	4.50	54.74	14.66	0.06	2.73	2.40	6586.44	0.21	1.03	6911.07
2010 Tons/year	11936	295667.79	4833	147305.01	3134850	4.58	55.83	15.07	0.06	2.81	2.49	6492.35	0.21	1.02	6812.37
2009 Tons/year	12421	304191.67	5935	148166.84	3379960	5.12	62.62	16.92	0.07	3.17	2.82	6999.04	0.24	1.10	7344.23
2008 Tons/year	11591	284661.79	6288	154643.15	3251550	5.16	62.45	17.32	0.06	3.26	2.91	6739.50	0.24	1.06	7072.15
10-Year Average Tons/year	**10410.20**	**255393.47**	**4993.80**	**126838.31**	**2835336.00**	**3.32**	**41.91**	**10.92**	**0.05**	**2.06**	**1.79**	**5723.11**	**0.15**	**0.90**	**6004.77**

[1] PM accounts for PM from running, tire wear and break wear.

Project Unpaved Road Travel Fugitive Dust from Delivery Truck Emissions

Assumptions:

Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)

Mean Vehicle Weight: 19 tons

Based on:

Avg unpaved miles/trip: 0.03

	PM10	PM2.5
Em. Factor (lbs/VMT)	1.95E+00	1.95E-01
2017 Tons/year	0.05	0.005
2016 Tons/year	0.08	0.008
2015 Tons/year	0.09	0.009
2014 Tons/year	0.10	0.010
2013 Tons/year	0.10	0.010
2012 Tons/year	0.11	0.011
2011 Tons/year	0.11	0.011
2010 Tons/year	0.11	0.011
2009 Tons/year	0.12	0.012
2008 Tons/year	0.11	0.011
10-Year Average Tons/year	**0.10**	**0.01**

*61% Control for water surpression 3 times daily

*44% Control for reducing speed to less than 15 mph

AP 42 Chapter 13, Section 13.2.2 Equation 1a

Project Operational On-Road Employee Trip Exhaust Emissions (LDA & LDT1)

Based on:	Years 2008-2015	Years 2016-2017
Employee Round Trips/year:	8760	5110
Miles/Trip:	60	60
Total miles traveled/year:	525,600	306,600

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	0.02	0.06	0.65	1.14E-03	1.60E-02	6.78E-03	115.19	0.004	0.004	116.62
2016 Tons/year	0.02	0.08	0.78	1.17E-03	1.60E-02	6.84E-03	117.94	0.005	0.005	119.60
2015 Tons/year	0.05	0.16	1.60	2.05E-03	2.77E-02	1.19E-02	207.04	0.010	0.010	210.37
2014 Tons/year	0.06	0.19	1.89	2.10E-03	2.79E-02	1.21E-02	210.81	0.012	0.012	214.69
2013 Tons/year	0.08	0.23	2.25	2.13E-03	2.82E-02	1.24E-02	215.12	0.014	0.013	219.55
2012 Tons/year	0.09	0.25	2.50	2.17E-03	2.84E-02	1.26E-02	219.56	0.016	0.015	224.44
2011 Tons/year	0.11	0.28	2.74	2.19E-03	2.87E-02	1.28E-02	221.61	0.018	0.016	226.94
2010 Tons/year	0.11	0.30	2.91	2.21E-03	2.89E-02	1.31E-02	223.54	0.019	0.017	229.21
2009 Tons/year	0.13	0.33	3.15	2.22E-03	2.92E-02	1.33E-02	227.98	0.021	0.018	234.07
2008 Tons/year	0.14	0.36	3.46	2.23E-03	2.96E-02	1.37E-02	228.25	0.023	0.020	234.85
10-Year Average Tons/year	**0.08**	**0.23**	**2.19**	**0.00**	**0.03**	**0.01**	**198.70**	**0.01**	**0.01**	**203.03**

**Since employee vehicles are not know, a 50% LDA and 50% LDT1 split was assumed to be conservative

[1] PM accounts for PM from running, tire wear and break wear.

10-Year Operational Baseline Exhaust and Unpaved Fugitive Emissions (Total)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
Delivery Trucks	3.32	41.91	10.92	0.05	2.06	1.79	5723.11	0.15	0.90	6004.77
Employee Trips	0.08	0.23	2.19	0.00	0.03	0.01	198.70	0.01	0.01	203.03
Unpaved Travel	-	-	-	-	0.10	0.01	-	-	-	-
Operational total emissions (tons/year)	**3.40**	**42.14**	**13.12**	**0.06**	**2.18**	**1.81**	**5921.81**	**0.17**	**0.91**	**6207.81**

Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	1.00	9.89	6.09	0.01	0.54	0.50	1093.08	0.301	0.000	1100.60
2016 Tons/year	1.08	10.71	6.33	0.01	0.60	0.56	1108.69	0.302	0.000	1116.25
2015 Tons/year	1.16	11.61	6.55	0.01	0.65	0.61	1119.48	0.304	0.000	1127.07
2014 Tons/year	1.20	11.99	6.63	0.01	0.68	0.63	1129.52	0.305	0.000	1137.15
2013 Tons/year	1.28	12.86	6.90	0.01	0.73	0.68	1135.27	0.307	0.000	1142.95
2012 Tons/year	1.34	13.53	7.11	0.01	0.77	0.72	1140.45	0.309	0.000	1148.16
2011 Tons/year	1.35	13.67	7.09	0.01	0.78	0.73	1142.91	0.310	0.000	1150.73
2010 Tons/year	1.39	14.14	7.27	0.01	0.80	0.75	1145.87	0.312	0.000	1153.66
2009 Tons/year	1.39	14.14	7.27	0.01	0.80	0.75	1145.87	0.312	0.000	1153.66
2008 Tons/year	1.39	14.14	7.27	0.01	0.80	0.75	1145.87	0.312	0.000	1153.66
10-Year Average Tons/year	**1.26**	**12.67**	**6.85**	**0.01**	**0.72**	**0.67**	**1130.70**	**0.31**	**0.00**	**1138.39**

1. CalEEMod does not have an operational year of 2008 or 2009, therefore to be conservative Year 2010 was used for both.
2. Hours/day are CalEEMod defaults of 8 hours/day
3. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
4. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
5. Water Truck was modeled as Other Constrution Equipment with 300 HP.
6. Dump Trucks modeled as Off-Highway Trucks.

Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

	PM10	PM2.5
Em. Factor (lbs/VMT)	2.09E+00	2.09E-01
2017 Tons/year	4.58	0.46
2016 Tons/year	4.58	0.46
2015 Tons/year	4.58	0.46
2014 Tons/year	4.58	0.46
2013 Tons/year	4.58	0.46
2012 Tons/year	4.58	0.46
2011 Tons/year	4.58	0.46
2010 Tons/year	4.58	0.46
2009 Tons/year	4.58	0.46
2008 Tons/year	4.58	0.46
10-Year Average Tons/year	**4.58**	**0.46**

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2008-2017
Miles/day: 10
Total miles traveled/year: 3,650

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.100	0.000	0.000	3.254
2016 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.105	0.000	0.000	3.258
2015 Tons/year	0.003	0.005	0.010	0.000	0.002	0.002	3.122	0.000	0.000	3.277
2014 Tons/year	0.002	0.004	0.009	0.000	0.002	0.002	3.150	0.000	0.000	3.305
2013 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.175	0.000	0.000	3.332
2012 Tons/year	0.002	0.005	0.008	0.000	0.002	0.002	3.196	0.000	0.001	3.353
2011 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.156	0.000	0.000	3.312
2010 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.153	0.000	0.000	3.309
2009 Tons/year	0.002	0.005	0.009	0.000	0.002	0.002	3.147	0.000	0.000	3.302
2008 Tons/year	0.003	0.005	0.010	0.000	0.002	0.002	3.104	0.000	0.000	3.257
10-Year Average Tons/year	**0.002**	**0.005**	**0.009**	**0.000**	**0.002**	**0.002**	**3.141**	**0.000**	**0.000**	**3.296**

Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2008-2017
Miles/Trip: 5
Total miles traveled/year: 1,825

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	0.000	0.001	0.009	0.000	0.000	0.000	1.145	0.000	0.000	1.161
2016 Tons/year	0.001	0.001	0.011	0.000	0.000	0.000	1.174	0.000	0.000	1.194
2015 Tons/year	0.001	0.001	0.013	0.000	0.000	0.000	1.207	0.000	0.000	1.230
2014 Tons/year	0.001	0.001	0.015	0.000	0.000	0.000	1.234	0.000	0.000	1.261
2013 Tons/year	0.001	0.001	0.018	0.000	0.000	0.000	1.256	0.000	0.000	1.286
2012 Tons/year	0.001	0.002	0.020	0.000	0.000	0.000	1.277	0.000	0.000	1.309
2011 Tons/year	0.001	0.002	0.021	0.000	0.000	0.000	1.284	0.000	0.000	1.319
2010 Tons/year	0.001	0.002	0.022	0.000	0.000	0.000	1.292	0.000	0.000	1.328
2009 Tons/year	0.001	0.002	0.023	0.000	0.000	0.000	1.315	0.000	0.000	1.353
2008 Tons/year	0.002	0.002	0.025	0.000	0.000	0.000	1.309	0.000	0.000	1.349
10-Year Average Tons/year	**0.001**	**0.001**	**0.018**	**0.000**	**0.000**	**0.000**	**1.249**	**0.000**	**0.000**	**1.279**

Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2008-2017
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O
lb/mile	0.0015	0.00108	0.0437	0.00	0.0001	0.0001	0.2417	0.00	0.00

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2017 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2016 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2015 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2014 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2013 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2012 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2011 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2010 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2009 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
2008 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221
10-Year Average Tons/year	**0.001**	**0.001**	**0.040**	**0.000**	**0.000**	**0.000**	**0.221**	**0.000**	**0.000**	**0.221**

10-Year Operational Baseline Exhaust and Unpaved Fugitive Emissions (Total)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
Onsite Equipment Exhaust	1.26	12.67	6.92	0.01	0.72	0.67	1135.31	0.31	0.00	1143.19
Unpaved Travel	-	-	-	-	4.58	0.46	-	-	-	-
Operational total emissions (tons/year)	**1.26**	**12.67**	**6.92**	**0.01**	**5.30**	**1.13**	**1135.31**	**0.31**	**0.00**	**1143.19**

S-4212-1 - Receiving/Mixing

	NOx	SO2	PM10 - hopper	PM10 - xfer points	CO	VOC	NH3
EMISSION FACTORS (lb/ton)	0.000	0	0.0001	4.50E-05	0.000	0.001	0.000

	Throughput	**VOC**	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**NH3**
2017 Tons/year	80841.83	0.05	0.00	0.00	0.00	0.01	0.01	0.00
2016 Tons/year	252615.85	0.14	0.00	0.00	0.00	0.02	0.02	0.01
2015 Tons/year	250836	0.14	0.00	0.00	0.00	0.02	0.02	0.01
2014 Tons/year	265774.34	0.15	0.00	0.00	0.00	0.02	0.02	0.01
2013 Tons/year	247146.98	0.14	0.00	0.00	0.00	0.02	0.02	0.01
2012 Tons/year	277476.74	0.16	0.00	0.00	0.00	0.02	0.02	0.01
2011 Tons/year	294721.71	0.17	0.00	0.00	0.00	0.02	0.02	0.01
2010 Tons/year	295667.79	0.17	0.00	0.00	0.00	0.02	0.02	0.01
2009 Tons/year	304191.67	0.17	0.00	0.00	0.00	0.02	0.02	0.01
2008 Tons/year	284661.79	0.16	0.00	0.00	0.00	0.02	0.02	0.01
10-Year Average Tons/year	**255393.47**	**0.15**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.01**

S-4212-2 - ASP Composting

	NOx	SO2	PM10	CO	VOC	NH3
EMISSION FACTORS (lb/ton)	0.000	0	0	0.000	0.238	0.220

	Throughput	**VOC**	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**NH3**	**CO2e**
2017 Tons/year	80841.83	9.63	0.00	0.00	0.00	0.00	0.00	8.90	-13088.41
2016 Tons/year	252615.85	30.09	0.00	0.00	0.00	0.00	0.00	27.83	-39804.69
2015 Tons/year	250836	29.88	0.00	0.00	0.00	0.00	0.00	27.63	-39444.66
2014 Tons/year	265774.34	31.66	0.00	0.00	0.00	0.00	0.00	29.28	-41745.99
2013 Tons/year	247146.98	29.44	0.00	0.00	0.00	0.00	0.00	27.22	-38928.69
2012 Tons/year	277476.74	33.06	0.00	0.00	0.00	0.00	0.00	30.56	-43479.07
2011 Tons/year	294721.71	35.11	0.00	0.00	0.00	0.00	0.00	32.46	-45919.04
2010 Tons/year	295667.79	35.22	0.00	0.00	0.00	0.00	0.00	32.57	-46302.88
2009 Tons/year	304191.67	36.24	0.00	0.00	0.00	0.00	0.00	33.51	-47458.48
2008 Tons/year	284661.79	33.91	0.00	0.00	0.00	0.00	0.00	31.36	-18753.56
10-Year Average Tons/year	**255393.47**	**30.43**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**28.13**	**-37492.55**

S-4212-4 - IC Engine

EQUIPMENT DESCRIPTION:	415	hp
Fuel Type		Diesel
Operating Hours	0.5	hr/day
	50	hr/yr
Fuel Consumption	5.63	gals/hr
HHV	0.138	mmBtu/gal

	NOx	SO2	PM10	CO	VOC		CO2	CH4	N2O
EMISSION FACTORS (g/hp-hr)	5.700	0.0051	0.08	0.400	0.140	kg/mmBtu	73.960	0.003	0.0006

	VOC	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**
2017 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2016 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2015 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2014 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2013 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2012 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2011 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2010 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2009 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
2008 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883
10-Year Average Tons/year	**0.003**	**0.13**	**0.01**	**0.13**	**0.002**	**0.002**	**2.87**	**0.00**	**0.00**	**2.88**

S-4212-8 - IC Engine

EQUIPMENT DESCRIPTION:	125	hp
Fuel Type		Diesel
Operating Hours	24	hr/day
	8760	hr/yr
Fuel Consumption	5.63	gals/hr
HHV	0.138	mmBtu/gal

	NOx	SO2	PM10	CO	VOC		CO2	CH4	N2O
EMISSION FACTORS (g/hp-hr)	0.250	0.0051	0.01	0.070	0.010	kg/mmBtu	73.960	0.003	0.0006

	VOC	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**
2017 Tons/year	0.012	0.302	0.084	0.006	0.012	0.012	503.37	0.02	0.004	505.066
2016 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2015 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2014 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2013 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008 Tons/year	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10-Year Average Tons/year	**0.001**	**0.03**	**0.01**	**0.00**	**0.001**	**0.001**	**50.34**	**0.00**	**0.00**	**50.51**

Synagro - 2008, 2009, or 2010 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2010
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2008, 2009, or 2010 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	PhaseEndDate	2/14/2013	12/31/2009
tblConstructionPhase	PhaseEndDate	4/15/2010	12/31/2009
tblConstructionPhase	PhaseStartDate	4/16/2010	1/1/2010
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00

tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00
tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
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tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
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tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
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tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00

tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3907	14.1374	7.2726	0.0121		0.8042	0.8042		0.7517	0.7517	0.0000	1,145.8686	1,145.8686	0.3118	0.0000	1,153.6639
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3907**	**14.1374**	**7.2726**	**0.0121**	**0.0000**	**0.8042**	**0.8042**	**0.0000**	**0.7517**	**0.7517**	**0.0000**	**1,145.8686**	**1,145.8686**	**0.3118**	**0.0000**	**1,153.6639**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3907	14.1374	7.2726	0.0121		0.8042	0.8042		0.7517	0.7517	0.0000	1,145.8686	1,145.8686	0.3118	0.0000	1,153.6639
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3907**	**14.1374**	**7.2726**	**0.0121**	**0.0000**	**0.8042**	**0.8042**	**0.0000**	**0.7517**	**0.7517**	**0.0000**	**1,145.8686**	**1,145.8686**	**0.3118**	**0.0000**	**1,153.6639**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2010	12/31/2009	7	0	
2	Operation	Building Construction	1/1/2010	12/31/2009	7	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.1145	0.6523	0.3941	8.3000e-004		0.0407	0.0407		0.0407	0.0407	0.0000	61.3990	61.3990	9.2900e-003	0.0000	61.6313
Off-Highway Trucks	0.4229	5.4288	2.2837	4.8300e-003		0.2097	0.2097		0.1930	0.1930	0.0000	471.7592	471.7592	0.1373	0.0000	475.1922
Other Construction Equipment	0.1637	2.3467	1.2996	2.0000e-003		0.0887	0.0887		0.0816	0.0816	0.0000	195.3108	195.3108	0.0569	0.0000	196.7321
Pumps	0.2079	1.3355	0.7473	1.2000e-003		0.1076	0.1076		0.1076	0.1076	0.0000	103.1504	103.1504	0.0169	0.0000	103.5724
Sweepers/Scrubbers	0.1742	1.4574	0.7773	9.2000e-004		0.1245	0.1245		0.1146	0.1146	0.0000	90.5717	90.5717	0.0264	0.0000	91.2308
Tractors/Loaders/Backhoes	0.3077	2.9168	1.7707	2.2900e-003		0.2329	0.2329		0.2142	0.2142	0.0000	223.6775	223.6775	0.0651	0.0000	225.3052
Total	**1.3907**	**14.1374**	**7.2726**	**0.0121**		**0.8042**	**0.8042**		**0.7517**	**0.7517**	**0.0000**	**1,145.8686**	**1,145.8686**	**0.3118**	**0.0000**	**1,153.6639**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2011 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2011
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2011 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2014	4/15/2011
tblConstructionPhase	PhaseEndDate	4/15/2011	12/31/2010
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

Synagro - 2011 Baseline - Kern-San Joaquin County, Annual

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3505	13.6666	7.0858	0.0121		0.7806	0.7806		0.7295	0.7295	0.0000	1,142.9720	1,142.9720	0.3103	0.0000	1,150.7288
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3505**	**13.6666**	**7.0858**	**0.0121**	**0.0000**	**0.7806**	**0.7806**	**0.0000**	**0.7295**	**0.7295**	**0.0000**	**1,142.9720**	**1,142.9720**	**0.3103**	**0.0000**	**1,150.7288**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3505	13.6666	7.0858	0.0121		0.7806	0.7806		0.7295	0.7295	0.0000	1,142.9720	1,142.9720	0.3103	0.0000	1,150.7288
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3505**	**13.6666**	**7.0858**	**0.0121**	**0.0000**	**0.7806**	**0.7806**	**0.0000**	**0.7295**	**0.7295**	**0.0000**	**1,142.9720**	**1,142.9720**	**0.3103**	**0.0000**	**1,150.7288**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2011	12/31/2010	5	0	
2	Operation	Building Construction	4/16/2011	4/15/2011	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.1096	0.6383	0.3786	8.3000e-004		0.0387	0.0387		0.0387	0.0387	0.0000	61.3990	61.3990	8.9700e-003	0.0000	61.6232
Off-Highway Trucks	0.4260	5.3084	2.2401	4.8300e-003		0.2062	0.2062		0.1897	0.1897	0.0000	470.3785	470.3785	0.1373	0.0000	473.8100
Other Construction Equipment	0.1532	2.2013	1.1821	2.0000e-003		0.0827	0.0827		0.0761	0.0761	0.0000	194.9843	194.9843	0.0569	0.0000	196.4068
Pumps	0.1939	1.2649	0.7399	1.2000e-003		0.1028	0.1028		0.1028	0.1028	0.0000	103.1504	103.1504	0.0158	0.0000	103.5451
Sweepers/Scrubbers	0.1704	1.4213	0.7749	9.3000e-004		0.1234	0.1234		0.1136	0.1136	0.0000	90.3453	90.3453	0.0264	0.0000	91.0044
Tractors/Loaders/Backhoes	0.2975	2.8325	1.7702	2.2800e-003		0.2267	0.2267		0.2086	0.2086	0.0000	222.7145	222.7145	0.0650	0.0000	224.3393
Total	**1.3505**	**13.6666**	**7.0858**	**0.0121**		**0.7806**	**0.7806**		**0.7295**	**0.7295**	**0.0000**	**1,142.9720**	**1,142.9720**	**0.3103**	**0.0000**	**1,150.7288**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2012 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2012
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2012 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/13/2015	4/13/2012
tblConstructionPhase	PhaseEndDate	4/13/2012	12/30/2011
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3445	13.5302	7.1107	0.0121		0.7740	0.7740		0.7227	0.7227	0.0000	1,140.4506	1,140.4506	0.3086	0.0000	1,148.1642
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3445**	**13.5302**	**7.1107**	**0.0121**	**0.0000**	**0.7740**	**0.7740**	**0.0000**	**0.7227**	**0.7227**	**0.0000**	**1,140.4506**	**1,140.4506**	**0.3086**	**0.0000**	**1,148.1642**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.3445	13.5302	7.1107	0.0121		0.7740	0.7740		0.7227	0.7227	0.0000	1,140.4506	1,140.4506	0.3086	0.0000	1,148.1642
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3445**	**13.5302**	**7.1107**	**0.0121**	**0.0000**	**0.7740**	**0.7740**	**0.0000**	**0.7227**	**0.7227**	**0.0000**	**1,140.4506**	**1,140.4506**	**0.3086**	**0.0000**	**1,148.1642**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2012	12/30/2011	5	0	
2	Operation	Building Construction	4/14/2012	4/13/2012	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.1053	0.6239	0.3624	8.3000e-004		0.0366	0.0366		0.0366	0.0366	0.0000	61.3990	61.3990	8.5400e-003	0.0000	61.6124
Off-Highway Trucks	0.4346	5.2875	2.2521	4.8300e-003		0.2067	0.2067		0.1902	0.1902	0.0000	469.2006	469.2006	0.1373	0.0000	472.6321
Other Construction Equipment	0.1564	2.1995	1.1993	2.0000e-003		0.0835	0.0835		0.0768	0.0768	0.0000	194.4916	194.4916	0.0569	0.0000	195.9140
Pumps	0.1793	1.1883	0.7323	1.2000e-003		0.0962	0.0962		0.0962	0.0962	0.0000	103.1504	103.1504	0.0145	0.0000	103.5134
Sweepers/Scrubbers	0.1718	1.4219	0.7817	9.2000e-004		0.1248	0.1248		0.1148	0.1148	0.0000	90.1188	90.1188	0.0264	0.0000	90.7779
Tractors/Loaders/Backhoes	0.2972	2.8092	1.7828	2.2800e-003		0.2262	0.2262		0.2081	0.2081	0.0000	222.0902	222.0902	0.0650	0.0000	223.7144
Total	**1.3445**	**13.5302**	**7.1107**	**0.0121**		**0.7740**	**0.7740**		**0.7227**	**0.7227**	**0.0000**	**1,140.4505**	**1,140.4505**	**0.3086**	**0.0000**	**1,148.1642**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2013 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2013
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2013 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/15/2016	4/15/2013
tblConstructionPhase	PhaseEndDate	4/15/2013	12/31/2012
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.2797	12.8591	6.8995	0.0121		0.7302	0.7302		0.6816	0.6816	0.0000	1,135.2746	1,135.2746	0.3071	0.0000	1,142.9509
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2797**	**12.8591**	**6.8995**	**0.0121**	**0.0000**	**0.7302**	**0.7302**	**0.0000**	**0.6816**	**0.6816**	**0.0000**	**1,135.2746**	**1,135.2746**	**0.3071**	**0.0000**	**1,142.9509**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.2797	12.8591	6.8995	0.0121		0.7302	0.7302		0.6816	0.6816	0.0000	1,135.2746	1,135.2746	0.3071	0.0000	1,142.9509
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2797**	**12.8591**	**6.8995**	**0.0121**	**0.0000**	**0.7302**	**0.7302**	**0.0000**	**0.6816**	**0.6816**	**0.0000**	**1,135.2746**	**1,135.2746**	**0.3071**	**0.0000**	**1,142.9509**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2013	12/31/2012	5	0	
2	Operation	Building Construction	4/16/2013	4/15/2013	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.1014	0.6094	0.3462	8.3000e-004		0.0344	0.0344		0.0344	0.0344	0.0000	61.3990	61.3990	8.2100e-003	0.0000	61.6043
Off-Highway Trucks	0.4152	4.9783	2.1415	4.8300e-003		0.1933	0.1933		0.1778	0.1778	0.0000	467.0649	467.0649	0.1373	0.0000	470.4981
Other Construction Equipment	0.1500	2.0859	1.1336	2.0000e-003		0.0788	0.0788		0.0725	0.0725	0.0000	193.1980	193.1980	0.0568	0.0000	194.6181
Pumps	0.1647	1.1130	0.7249	1.2000e-003		0.0886	0.0886		0.0886	0.0886	0.0000	103.1504	103.1504	0.0134	0.0000	103.4862
Sweepers/Scrubbers	0.1624	1.3546	0.7731	9.3000e-004		0.1186	0.1186		0.1091	0.1091	0.0000	89.6660	89.6660	0.0264	0.0000	90.3251
Tractors/Loaders/Backhoes	0.2861	2.7179	1.7802	2.2800e-003		0.2165	0.2165		0.1992	0.1992	0.0000	220.7963	220.7963	0.0649	0.0000	222.4193
Total	**1.2797**	**12.8591**	**6.8995**	**0.0121**		**0.7301**	**0.7301**		**0.6816**	**0.6816**	**0.0000**	**1,135.2746**	**1,135.2746**	**0.3071**	**0.0000**	**1,142.9510**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2014 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2014
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2014 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2017	4/15/2014
tblConstructionPhase	PhaseEndDate	4/15/2014	12/31/2013
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

Synagro - 2014 Baseline - Kern-San Joaquin County, Annual

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1954	11.9916	6.6335	0.0121		0.6760	0.6760		0.6310	0.6310	0.0000	1,129.5193	1,129.5193	0.3053	0.0000	1,137.1522
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1954**	**11.9916**	**6.6335**	**0.0121**	**0.0000**	**0.6760**	**0.6760**	**0.0000**	**0.6310**	**0.6310**	**0.0000**	**1,129.5193**	**1,129.5193**	**0.3053**	**0.0000**	**1,137.1522**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1954	11.9916	6.6335	0.0121		0.6760	0.6760		0.6310	0.6310	0.0000	1,129.5193	1,129.5193	0.3053	0.0000	1,137.1522
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1954**	**11.9916**	**6.6335**	**0.0121**	**0.0000**	**0.6760**	**0.6760**	**0.0000**	**0.6310**	**0.6310**	**0.0000**	**1,129.5193**	**1,129.5193**	**0.3053**	**0.0000**	**1,137.1522**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2014	12/31/2013	5	0	
2	Operation	Building Construction	4/16/2014	4/15/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.0978	0.5955	0.3311	8.3000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	61.3990	61.3990	7.9900e-003	0.0000	61.5989
Off-Highway Trucks	0.3869	4.6079	2.0407	4.8300e-003		0.1766	0.1766		0.1624	0.1624	0.0000	464.8448	464.8448	0.1374	0.0000	468.2790
Other Construction Equipment	0.1337	1.8497	1.0041	1.9900e-003		0.0682	0.0682		0.0627	0.0627	0.0000	191.6659	191.6659	0.0566	0.0000	193.0818
Pumps	0.1503	1.0456	0.7177	1.2000e-003		0.0806	0.0806		0.0806	0.0806	0.0000	103.1504	103.1504	0.0122	0.0000	103.4544
Sweepers/Scrubbers	0.1578	1.3141	0.7715	9.3000e-004		0.1157	0.1157		0.1064	0.1064	0.0000	89.2131	89.2131	0.0264	0.0000	89.8722
Tractors/Loaders/Backhoes	0.2690	2.5788	1.7685	2.2800e-003		0.2026	0.2026		0.1864	0.1864	0.0000	219.2461	219.2461	0.0648	0.0000	220.8659
Total	**1.1954**	**11.9916**	**6.6336**	**0.0121**		**0.6760**	**0.6760**		**0.6309**	**0.6309**	**0.0000**	**1,129.5193**	**1,129.5193**	**0.3053**	**0.0000**	**1,137.1522**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2015 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2015 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2018	4/15/2015
tblConstructionPhase	PhaseEndDate	4/15/2015	12/31/2014
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1610	11.6051	6.5549	0.0121		0.6511	0.6511		0.6073	0.6073	0.0000	1,119.4767	1,119.4767	0.3038	0.0000	1,127.0724
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1610**	**11.6051**	**6.5549**	**0.0121**	**0.0000**	**0.6511**	**0.6511**	**0.0000**	**0.6073**	**0.6073**	**0.0000**	**1,119.4767**	**1,119.4767**	**0.3038**	**0.0000**	**1,127.0724**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1610	11.6051	6.5549	0.0121		0.6511	0.6511		0.6073	0.6073	0.0000	1,119.4767	1,119.4767	0.3038	0.0000	1,127.0724
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1610**	**11.6051**	**6.5549**	**0.0121**	**0.0000**	**0.6511**	**0.6511**	**0.0000**	**0.6073**	**0.6073**	**0.0000**	**1,119.4767**	**1,119.4767**	**0.3038**	**0.0000**	**1,127.0724**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2015	12/31/2014	5	0	
2	Operation	Building Construction	4/16/2015	4/15/2015	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.0944	0.5824	0.3175	8.3000e-004		0.0305	0.0305		0.0305	0.0305	0.0000	61.3990	61.3990	7.6700e-003	0.0000	61.5908
Off-Highway Trucks	0.3781	4.4527	2.0029	4.8300e-003		0.1701	0.1701		0.1565	0.1565	0.0000	460.1921	460.1921	0.1374	0.0000	463.6267
Other Construction Equipment	0.1316	1.7906	0.9763	1.9900e-003		0.0660	0.0660		0.0607	0.0607	0.0000	189.5507	189.5507	0.0566	0.0000	190.9654
Pumps	0.1359	0.9688	0.7111	1.2000e-003		0.0728	0.0728		0.0728	0.0728	0.0000	103.1505	103.1505	0.0111	0.0000	103.4273
Sweepers/Scrubbers	0.1580	1.3051	0.7764	9.3000e-004		0.1157	0.1157		0.1064	0.1064	0.0000	88.3074	88.3074	0.0264	0.0000	88.9665
Tractors/Loaders/Backhoes	0.2631	2.5055	1.7707	2.2800e-003		0.1961	0.1961		0.1804	0.1804	0.0000	216.8770	216.8770	0.0648	0.0000	218.4957
Total	**1.1610**	**11.6051**	**6.5549**	**0.0121**		**0.6511**	**0.6511**		**0.6073**	**0.6073**	**0.0000**	**1,119.4767**	**1,119.4767**	**0.3038**	**0.0000**	**1,127.0724**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2016 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2016 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2019	4/14/2016
tblConstructionPhase	PhaseEndDate	4/14/2016	12/31/2015
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.0813	10.7067	6.3261	0.0121		0.5965	0.5965		0.5563	0.5563	0.0000	1,108.6916	1,108.6916	0.3022	0.0000	1,116.2472
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0813**	**10.7067**	**6.3261**	**0.0121**	**0.0000**	**0.5965**	**0.5965**	**0.0000**	**0.5563**	**0.5563**	**0.0000**	**1,108.6916**	**1,108.6916**	**0.3022**	**0.0000**	**1,116.2472**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.0813	10.7067	6.3261	0.0121		0.5965	0.5965		0.5563	0.5563	0.0000	1,108.6916	1,108.6916	0.3022	0.0000	1,116.2472
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0813**	**10.7067**	**6.3261**	**0.0121**	**0.0000**	**0.5965**	**0.5965**	**0.0000**	**0.5563**	**0.5563**	**0.0000**	**1,108.6916**	**1,108.6916**	**0.3022**	**0.0000**	**1,116.2472**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2016	12/31/2015	5	0	
2	Operation	Building Construction	4/15/2016	4/14/2016	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.0921	0.5720	0.3101	8.3000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	61.3990	61.3990	7.4500e-003	0.0000	61.5854
Off-Highway Trucks	0.3455	3.9808	1.8539	4.8300e-003		0.1502	0.1502		0.1382	0.1382	0.0000	454.8559	454.8559	0.1372	0.0000	458.2859
Other Construction Equipment	0.1247	1.6586	0.9267	1.9900e-003		0.0611	0.0611		0.0562	0.0562	0.0000	187.5311	187.5311	0.0566	0.0000	188.9453
Pumps	0.1221	0.8960	0.7049	1.2000e-003		0.0650	0.0650		0.0650	0.0650	0.0000	103.1504	103.1504	9.9800e-003	0.0000	103.3999
Sweepers/Scrubbers	0.1483	1.2232	0.7693	9.3000e-004		0.1082	0.1082		0.0995	0.0995	0.0000	87.4017	87.4017	0.0264	0.0000	88.0608
Tractors/Loaders/Backhoes	0.2486	2.3762	1.7612	2.2700e-003		0.1830	0.1830		0.1683	0.1683	0.0000	214.3536	214.3536	0.0647	0.0000	215.9700
Total	**1.0813**	**10.7067**	**6.3261**	**0.0121**		**0.5965**	**0.5965**		**0.5563**	**0.5563**	**0.0000**	**1,108.6916**	**1,108.6916**	**0.3022**	**0.0000**	**1,116.2472**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Synagro - 2017 Baseline

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2017 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2020	4/14/2017
tblConstructionPhase	PhaseEndDate	4/14/2017	12/30/2016
tblFleetMix	HHD	0.12	0.00
tblFleetMix	LDA	0.40	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.05	0.00
tblFleetMix	LHD2	0.01	0.00
tblFleetMix	MCY	7.8530e-003	0.00
tblFleetMix	MDV	0.19	0.00
tblFleetMix	MH	2.0800e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.7530e-003	0.00

tblFleetMix	SBUS	1.1280e-003	0.00
tblFleetMix	UBUS	2.3680e-003	0.00
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	OffRoadEquipmentType	Excavators	Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	PhaseName		Grading
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tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOffRoadEquipment	PhaseName		Operation
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Synagro - 2017 Baseline - Kern-San Joaquin County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.0046	9.8926	6.0911	0.0120		0.5409	0.5409		0.5044	0.5044	0.0000	1,093.0784	1,093.0784	0.3007	0.0000	1,100.5969
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0046**	**9.8926**	**6.0911**	**0.0120**	**0.0000**	**0.5409**	**0.5409**	**0.0000**	**0.5044**	**0.5044**	**0.0000**	**1,093.0784**	**1,093.0784**	**0.3007**	**0.0000**	**1,100.5969**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.0046	9.8926	6.0911	0.0120		0.5409	0.5409		0.5044	0.5044	0.0000	1,093.0784	1,093.0784	0.3007	0.0000	1,100.5969
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0046**	**9.8926**	**6.0911**	**0.0120**	**0.0000**	**0.5409**	**0.5409**	**0.0000**	**0.5044**	**0.5044**	**0.0000**	**1,093.0784**	**1,093.0784**	**0.3007**	**0.0000**	**1,100.5969**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2017	12/30/2016	5	0	
2	Operation	Building Construction	4/15/2017	4/14/2017	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Generator Sets	2	8.00	25	0.74
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Pumps	1	8.00	84	0.74

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	2	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	4	8.00	365	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.0902	0.5632	0.3054	8.3000e-004		0.0278	0.0278		0.0278	0.0278	0.0000	61.3990	61.3990	7.3500e-003	0.0000	61.5827
Off-Highway Trucks	0.3199	3.6075	1.7187	4.8200e-003		0.1339	0.1339		0.1232	0.1232	0.0000	447.3410	447.3410	0.1371	0.0000	450.7676
Other Construction Equipment	0.1175	1.5318	0.8603	1.9900e-003		0.0561	0.0561		0.0516	0.0516	0.0000	184.3756	184.3756	0.0565	0.0000	185.7879
Pumps	0.1092	0.8271	0.6993	1.2000e-003		0.0574	0.0574		0.0574	0.0574	0.0000	103.1504	103.1504	8.8900e-003	0.0000	103.3727
Sweepers/Scrubbers	0.1366	1.1410	0.7600	9.3000e-004		0.0986	0.0986		0.0907	0.0907	0.0000	86.0431	86.0431	0.0264	0.0000	86.7022
Tractors/Loaders/Backhoes	0.2313	2.2220	1.7475	2.2700e-003		0.1671	0.1671		0.1537	0.1537	0.0000	210.7693	210.7693	0.0646	0.0000	212.3838
Total	**1.0046**	**9.8926**	**6.0911**	**0.0120**		**0.5409**	**0.5409**		**0.5044**	**0.5044**	**0.0000**	**1,093.0784**	**1,093.0784**	**0.3007**	**0.0000**	**1,100.5969**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2008 to 12/31/2008

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (18,753.56)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	40,433.09	-	(5,915.85)
Mixed Organics	NA	-	-	79,363.70	-	(12,837.71)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2009 to 12/31/2009

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (47,458.48)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	113,101.47	-	(16,548.10)
Mixed Organics	NA	-	-	191,090.20	-	(30,910.37)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2010 to 12/31/2010

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (46,302.88)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	98,650.56	-	(14,433.76)
Mixed Organics	NA	-	-	197,017.23	-	(31,869.12)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2011 to 12/31/2011

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (45,919.04)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	113,593.15	-	(16,620.04)
Mixed Organics	NA	-	-	181,128.56	-	(29,299.00)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2012 to 12/31/2012

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (43,479.07)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	90,963.18	-	(13,309.01)
Mixed Organics	NA	-	-	186,513.56	-	(30,170.06)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2013 to 12/31/2013

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (38,928.69)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	67,934.18	-	(9,939.59)
Mixed Organics	NA	-	-	179,212.80	-	(28,989.11)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2014 to 12/31/2014

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (41,745.99)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	80,612.44	-	(11,794.57)
Mixed Organics	NA	-	-	185,161.90	-	(29,951.42)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2015 to 12/31/2015

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (39,444.66)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	73,163.14	-	(10,704.65)
Mixed Organics	NA	-	-	177,672.86	-	(28,740.01)
						0
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2016 to 12/31/2016

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (39,804.69)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	69,866.00	-	(10,222.24)
Food Waste	NA	-	-	1,487.56	-	(261.83)
Mixed Organics	NA	-	-	181,262.29	-	(29,320.63)
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2017 to 12/31/2017

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (13,088.41)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Yard Trimmings	NA	-	-	4,494.67	-	(657.62)
Food Waste	NA	-	-	5,684.12	-	(1,000.47)
Mixed Organics	NA	-	-	70,663.04	-	(11,430.31)
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

Post-Project Non-Stationary Operational Emissions Summary							
	Annual Emissions (tons/year)						(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	CO2e
2019	2.24	30.51	12.16	0.06	5.99	1.52	6468.10

Post-Project Stationary Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
2019	80.21	0.43	0.09	0.14	0.06	0.06	73.82	-111718.50

Post-Project Total Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
2019	82.45	30.94	12.26	0.20	6.05	1.59	73.82	-105250.40

Project Operational Delivery Trucks T7 Exhaust Emissions - EMFAC2017

Based on:

80% Waste Trips Miles/Trip:	250	(Average Roundtrip Distance from trips originating in LA and Orange Counties)
20% Waste Trips Miles/Trip:	50	(Average Roundtrip Distance from trips originating locally)
20% Product Trips Miles/Trip:	250	(Average Roundtrip Distance from trips heading to LA and Orange Counties)
40% Product Trips Miles/Trip:	150	(Average Roundtrip Distance from trips heading to northern locations)
40% Product Trips Miles/Trip:	50	(Average Roundtrip Distance from trips heading locally)

	Waste Trips	Waste Tons	Product Trips	Product Tons	Annual Miles	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	3396	670000	14000	350000	2533160	1.01	18.66	3.17	0.04	0.69	0.49	4680.15	0.05	0.74	4909.18

[1] PM accounts for PM from running, tire wear and break wear.

Project Unpaved Road Travel Fugitive Dust from Delivery Truck Emissions

Assumptions:

Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)

Mean Vehicle Weight: 19 tons

Based on:

Avg unpaved miles/trip: 0.03

	PM10	PM2.5
Em. Factor (lbs/VMT)	1.95E+00	1.95E-01
2019 Tons/year	0.11	0.011

*61% Control for water surpression 3 times daily

*44% Control for reducing speed to less than 15 mph

AP 42 Chapter 13, Section 13.2.2 Equation 1a

Project Operational On-Road Employee Trip Exhaust Emissions (LDA & LDT1)

Based on: Years 2019

Employee Round Trips/year: 5110

Miles/Trip: 60

Total miles traveled/year: 306,600

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.01	0.04	0.47	1.08E-03	1.59E-02	6.70E-03	109.47	0.003	0.003	110.53

**Since employee vehicles are not know, a 50% LDA and 50% LDT1 split was assumed to be conservative

[1] PM accounts for PM from running, tire wear and break wear.

Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
Delivery Trucks	1.01	18.66	3.17	0.04	0.69	0.49	4680.15	0.05	0.74	4909.18
Employee Trips	0.01	0.04	0.47	0.00	0.02	0.01	109.47	0.00	0.00	110.53
Unpaved Travel	-	-	-	-	0.11	0.01	-	-	-	-
Operational total emissions (tons/year)	**1.02**	**18.70**	**3.64**	**0.05**	**0.81**	**0.51**	**4789.61**	**0.05**	**0.74**	**5019.71**

Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
2019 Tons/year	1.22	11.81	8.47	0.02	0.59	0.55	1674.10	0.492	0.000	1686.39

1. Hours/day are CalEEMod defaults of 8 hours/day
2. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
3. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
4. Water Truck was modeled as Other Constrution Equipment with 300 HP.
5. Dump Trucks modeled as Off-Highway Trucks.

Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

	PM10	PM2.5
Em. Factor (lbs/VMT)	2.09E+00	2.09E-01
2019 Tons/year	4.58	0.46

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/day: 10
Total miles traveled/year: 3,650

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.002	0.004	0.009	0.000	0.001	0.001	3.077	0.000	0.000	3.229

Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/Trip: 5
Total miles traveled/year: 1,825

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.000	0.001	0.007	0.000	0.000	0.000	1.086	0.000	0.000	1.099

Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2019
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O
lb/mile	0.0015	0.00108	0.0437	0.00	0.0001	0.0001	0.2417	0.00	0.00

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221

Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
Onsite Equipment Exhaust	1.22	11.81	8.53	0.02	0.60	0.55	1678.49	0.49	0.00	1690.94
Unpaved Travel	-	-	-	-	4.58	0.46	-	-	-	-
Operational total emissions (tons/year)	**1.22**	**11.81**	**8.53**	**0.02**	**5.17**	**1.01**	**1678.49**	**0.49**	**0.00**	**1690.94**

Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
2019 Tons/year	1.22	11.81	8.47	0.02	0.59	0.55	1674.10	0.492	0.000	1686.39

1. Hours/day are CalEEMod defaults of 8 hours/day
2. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
3. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
4. Water Truck was modeled as Other Constrution Equipment with 300 HP.
5. Dump Trucks modeled as Off-Highway Trucks.

Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

	PM10	PM2.5
Em. Factor (lbs/VMT)	2.09E+00	2.09E-01
2019 Tons/year	4.58	0.46

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/day: 10
Total miles traveled/year: 3,650

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.002	0.004	0.009	0.000	0.001	0.001	3.077	0.000	0.000	3.229

Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/Trip: 5
Total miles traveled/year: 1,825

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.000	0.001	0.007	0.000	0.000	0.000	1.086	0.000	0.000	1.099

Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2019
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O
lb/mile	0.0015	0.00108	0.0437	0.00	0.0001	0.0001	0.2417	0.00	0.00

	ROG	NOx	CO	SOX	PM10[1]	PM2.5[1]	CO2	CH4	N2O	CO2e
2019 Tons/year	0.001	0.001	0.040	0.000	0.000	0.000	0.221	0.000	0.000	0.221

Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

	ROG	NOx	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
Onsite Equipment Exhaust	1.22	11.81	8.53	0.02	0.60	0.55	1678.49	0.49	0.00	1690.94
Unpaved Travel	-	-	-	-	4.58	0.46	-	-	-	-
Operational total emissions (tons/year)	**1.22**	**11.81**	**8.53**	**0.02**	**5.17**	**1.01**	**1678.49**	**0.49**	**0.00**	**1690.94**

S-4212-1 - Receiving/Mixing

	NOx	SO2	PM10 - hopper	PM10 - xfer points	CO	VOC	NH3
EMISSION FACTORS (lb/ton)	0.000	0	0.0001	4.50E-05	0.000	0.001	0.000

	Throughput	**VOC**	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**NH3**
2019 Tons/year	670000	0.38	0.00	0.00	0.00	0.05	0.05	0.02

S-4212-2 - ASP Composting

	NOx	SO2	PM10	CO	VOC	NH3
EMISSION FACTORS (lb/ton)	0.000	0	0	0.000	0.238	0.220

	Throughput	**VOC**	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**NH3**	**CO2e**
2019 Tons/year	670000	79.82	0.00	0.00	0.00	0.00	0.00	73.80	-112226.45

S-4212-4 - IC Engine

EQUIPMENT DESCRIPTION:	415	hp
Fuel Type		Diesel
Operating Hours	0.5	hr/day
	50	hr/yr
Fuel Consumption	5.63	gals/hr
HHV	0.138	mmBtu/gal

	NOx	SO2	PM10	CO	VOC		CO2	CH4	N2O
EMISSION FACTORS (g/hp-hr)	5.700	0.0051	0.08	0.400	0.140	kg/mmBtu	73.960	0.003	0.0006

	VOC	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**
2019 Tons/year	0.003	0.13	0.01	0.13	0.002	0.002	2.87	0.0001	0.00002	2.883

S-4212-8 - IC Engine

EQUIPMENT DESCRIPTION:	125	hp
Fuel Type		Diesel
Operating Hours	24	hr/day
	8760	hr/yr
Fuel Consumption	5.63	gals/hr
HHV	0.138	mmBtu/gal

	NOx	SO2	PM10	CO	VOC		CO2	CH4	N2O
EMISSION FACTORS (g/hp-hr)	0.250	0.0051	0.01	0.070	0.010	kg/mmBtu	73.960	0.003	0.0006

	VOC	**NOx**	**CO**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2e**
2019 Tons/year	0.012	0.302	0.084	0.006	0.012	0.012	503.37	0.02	0.004	505.066

Synagro - 2019 Post-Project

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	45.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Synagro - 2019 Post-Project - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Construction Phase - This is an operational equipment run only

Off-road Equipment - Operational Run Only

Off-road Equipment - x

Trips and VMT - x

Grading - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Area Coating - x

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	250
tblAreaCoating	Area_EF_Nonresidential_Interior	150	250
tblAreaCoating	Area_EF_Residential_Exterior	150	250
tblAreaCoating	Area_EF_Residential_Interior	150	250
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	740.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2022	4/15/2019
tblConstructionPhase	PhaseEndDate	4/15/2019	12/31/2018
tblLandUse	LotAcreage	0.00	45.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	172.00	300.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	84.00	25.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	300.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.20
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	7.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	45.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.2167	11.8060	8.4714	0.0188		0.5944	0.5944		0.5524	0.5524	0.0000	1,674.1039	1,674.1039	0.4916	0.0000	1,686.3948
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2167**	**11.8060**	**8.4714**	**0.0188**	**0.0000**	**0.5944**	**0.5944**	**0.0000**	**0.5524**	**0.5524**	**0.0000**	**1,674.1039**	**1,674.1039**	**0.4916**	**0.0000**	**1,686.3948**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.2167	11.8060	8.4714	0.0188		0.5944	0.5944		0.5524	0.5524	0.0000	1,674.1039	1,674.1039	0.4916	0.0000	1,686.3948
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2167**	**11.8060**	**8.4714**	**0.0188**	**0.0000**	**0.5944**	**0.5944**	**0.0000**	**0.5524**	**0.5524**	**0.0000**	**1,674.1039**	**1,674.1039**	**0.4916**	**0.0000**	**1,686.3948**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	12/31/2018	5	0	
2	Operation	Building Construction	4/16/2019	4/15/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Generator Sets	2	8.00	25	0.74
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Other Construction Equipment	1	8.00	300	0.42
Grading	Pumps	1	8.00	84	0.74
Grading	Sweepers/Scrubbers	2	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Generator Sets	2	8.00	25	0.74
Operation	Off-Highway Trucks	2	8.00	402	0.38
Operation	Other Construction Equipment	1	8.00	300	0.42
Operation	Pumps	1	8.00	84	0.74
Operation	Sweepers/Scrubbers	2	8.00	64	0.46
Operation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Operation	Cranes	1	7.00	231	0.29
Grading	Excavators	2	8.00	158	0.38
Operation	Forklifts	3	8.00	89	0.20
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Operation	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	18	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Operation	17	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Operation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Operation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.466291	0.031960	0.164877	0.131500	0.023119	0.007290	0.020969	0.142348	0.001645	0.001858	0.006120	0.000997	0.001026

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Generator Sets	2	8.00	365	25	0.74	Diesel
Off-Highway Trucks	4	8.00	365	402	0.38	Diesel
Other Construction Equipment	1	8.00	365	300	0.42	Diesel
Pumps	1	8.00	365	84	0.74	Diesel
Sweepers/Scrubbers	2	8.00	365	64	0.46	Diesel
Tractors/Loaders/Backhoes	7	8.00	365	97	0.37	Diesel
Forklifts	1	8.00	365	89	0.20	CNG

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0293	0.2620	0.2190	2.8000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	25.1781	25.1781	7.9700e-003	0.0000	25.3772
Generator Sets	0.0871	0.5474	0.2979	8.3000e-004		0.0255	0.0255		0.0255	0.0255	0.0000	61.3990	61.3990	7.1300e-003	0.0000	61.5773
Off-Highway Trucks	0.5182	5.2484	2.9177	9.6500e-003		0.1909	0.1909		0.1756	0.1756	0.0000	866.0385	866.0385	0.2740	0.0000	872.8886
Other Construction Equipment	0.0947	1.1581	0.6762	1.9900e-003		0.0416	0.0416		0.0383	0.0383	0.0000	178.5930	178.5930	0.0565	0.0000	180.0057
Pumps	0.0858	0.6997	0.6901	1.2000e-003		0.0434	0.0434		0.0434	0.0434	0.0000	103.1504	103.1504	6.9000e-003	0.0000	103.3228
Sweepers/Scrubbers	0.1042	0.9045	0.7289	9.3000e-004		0.0734	0.0734		0.0675	0.0675	0.0000	83.3260	83.3260	0.0264	0.0000	83.9851
Tractors/Loaders/Backhoes	0.2974	2.9860	2.9417	3.9700e-003		0.1993	0.1993		0.1834	0.1834	0.0000	356.4190	356.4190	0.1128	0.0000	359.2382
Total	**1.2167**	**11.8059**	**8.4714**	**0.0189**		**0.5944**	**0.5944**		**0.5524**	**0.5524**	**0.0000**	**1,674.1039**	**1,674.1039**	**0.4916**	**0.0000**	**1,686.3948**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GHG Emissions Analysis -- Summary Report

Version 14

GHG Emissions Waste Management Analysis for

Prepared by:

Project Period for this Analysis: 01/01/2019 to 12/31/2019

Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (112,226.45)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Food Waste	NA	-	-	270,000.00	-	(47,523.25)
Mixed Organics	NA	-	-	400,000.00	-	(64,703.21)
						-
						0

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA WARM Documentation:
Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

Project Incremental Non-Stationary Operational Emissions Summary							
	Annual Emissions (tons/year)						(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	CO2e
10 Year Baseline Avg	4.67	54.81	20.02	0.07	7.48	2.94	7350.99
2019	2.24	30.51	12.16	0.06	5.99	1.52	6468.10
Incremental Increase	-2.43	-24.30	-7.85	0.00	-1.49	-1.41	-882.89

Project Incremental Stationary Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
10 Year Baseline Avg	**30.58**	**0.16**	**0.02**	**0.13**	**0.02**	**0.02**	**28.14**	**-37439.16**
2019	80.21	0.43	0.09	0.14	0.06	0.06	73.82	-111718.50
Incremental Increase	49.64	0.27	0.08	0.01	0.04	0.04	45.68	-74279.34

Project Incremental Total Operational Emissions Summary								
	Annual Emissions (tons/year)							(MT/Year)
Year	ROG	NOx	CO	SOX	PM10	PM2.5	NH3	CO2e
10 Year Baseline Avg	**35.24**	**54.97**	**20.04**	**0.20**	**7.50**	**2.96**	**28.14**	**-30088.17**
2019	82.45	30.94	12.26	0.20	6.05	1.59	73.82	-105250.40
Incremental Increase	47.21	-24.02	-7.78	0.00	-1.45	-1.37	45.68	-75162.24

ATTACHMENT C: CARB 2015 AND 2020 ESTIMATED EMISSION INVENTORIES

2016 SIP Emission Projection Data
2015 Estimated Annual Average Emissions
KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.7	2.4	0.2	0.4	0.4	0.3	0.0
WASTE DISPOSAL	7.6	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.2	0.2	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	9.3	16.7	7.4	3.3	2.7	1.6	0.1
*** TOTAL STATIONARY SOURCES**	**9.3**	**1.2**	**10.0**	**19.1**	**7.6**	**3.7**	**3.0**	**1.9**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.4	1.3	-	-	-	-	-	-	1.4
MISCELLANEOUS PROCESSES	3.4	1.2	11.0	0.6	0.0	18.3	9.5	2.5	0.7
*** TOTAL AREAWIDE SOURCES**	**4.9**	**2.4**	**11.0**	**0.6**	**0.0**	**18.3**	**9.5**	**2.5**	**2.1**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.9	1.7	12.4	6.3	0.0	0.3	0.3	0.2	0.2
OTHER MOBILE SOURCES	5.2	5.1	23.7	6.4	0.3	3.0	3.0	2.9	0.0
*** TOTAL MOBILE SOURCES**	**7.1**	**6.8**	**36.1**	**12.7**	**0.3**	**3.4**	**3.3**	**3.1**	**0.2**
TOTAL KERN COUNTY IN MOJAVE DESERT	**21.2**	**10.4**	**57.0**	**32.3**	**8.0**	**25.4**	**15.8**	**7.6**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	13.0	1.9	10.3	8.3	0.7	2.8	2.7	2.7	1.5
WASTE DISPOSAL	207.8	11.4	0.1	0.0	0.0	0.1	0.0	0.0	4.9
CLEANING AND SURFACE COATINGS	2.8	2.5	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	47.2	12.9	1.0	0.4	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.2	2.0	0.1	0.1	0.1	3.3	1.4	0.5	0.1
*** TOTAL STATIONARY SOURCES**	**273.0**	**30.8**	**11.5**	**8.8**	**1.2**	**6.4**	**4.3**	**3.4**	**6.7**

AREAWIDE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
SOLVENT EVAPORATION	10.5	9.6	-	-	-	-	-	-	28.0
MISCELLANEOUS PROCESSES	63.6	9.9	5.2	1.3	0.0	61.6	30.7	5.6	17.0
*** TOTAL AREAWIDE SOURCES**	**74.0**	**19.5**	**5.2**	**1.3**	**0.0**	**61.6**	**30.7**	**5.6**	**45.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	7.9	7.1	48.6	33.2	0.1	1.8	1.7	0.9	0.9
OTHER MOBILE SOURCES	4.8	4.2	27.4	13.9	0.0	0.7	0.7	0.7	0.0
*** TOTAL MOBILE SOURCES**	**12.7**	**11.3**	**76.0**	**47.1**	**0.2**	**2.5**	**2.5**	**1.6**	**0.9**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**359.7**	**61.6**	**92.8**	**57.1**	**1.4**	**70.5**	**37.5**	**10.5**	**52.5**
GRAND TOTAL FOR KERN COUNTY	**380.9**	**72.1**	**149.8**	**89.5**	**9.4**	**96.0**	**53.4**	**18.1**	**54.8**

Start a new query.

2016 SIP Emission Projection Data
2020 Estimated Annual Average Emissions
KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	0.5	0.1	0.8	2.4	0.2	0.4	0.4	0.4	0.0
WASTE DISPOSAL	8.4	0.1	0.0	-	0.0	0.0	0.0	0.0	0.1
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	0.1	0.1	-	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	10.2	18.4	8.1	3.7	2.9	1.7	0.1
*** TOTAL STATIONARY SOURCES**	**10.2**	**1.3**	**11.0**	**20.8**	**8.3**	**4.1**	**3.3**	**2.1**	**0.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	1.6	1.4	-	-	-	-	-	-	1.3
MISCELLANEOUS PROCESSES	3.5	1.2	11.0	0.6	0.0	18.6	9.7	2.6	0.7
*** TOTAL AREAWIDE SOURCES**	**5.0**	**2.6**	**11.0**	**0.6**	**0.0**	**18.6**	**9.7**	**2.6**	**2.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.1	1.1	7.2	4.1	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	5.0	4.9	23.8	5.5	0.3	3.0	2.9	2.9	0.0
*** TOTAL MOBILE SOURCES**	**6.2**	**5.9**	**31.0**	**9.6**	**0.3**	**3.3**	**3.2**	**3.0**	**0.1**
TOTAL KERN COUNTY IN MOJAVE DESERT	**21.4**	**9.8**	**53.0**	**31.0**	**8.6**	**26.0**	**16.2**	**7.7**	**2.3**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	12.6	1.8	9.9	7.6	0.7	2.7	2.6	2.5	1.6
WASTE DISPOSAL	224.6	12.2	0.2	0.1	0.0	0.1	0.0	0.0	5.4
CLEANING AND SURFACE COATINGS	3.0	2.7	-	-	-	0.0	0.0	0.0	-
PETROLEUM PRODUCTION AND MARKETING	46.2	11.8	0.9	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	2.4	2.3	0.1	0.1	0.1	3.7	1.6	0.6	0.2
*** TOTAL STATIONARY SOURCES**	**288.8**	**30.7**	**11.1**	**8.0**	**1.1**	**6.7**	**4.4**	**3.3**	**7.2**

AREAWIDE SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
SOLVENT EVAPORATION	10.9	10.0	-	-	-	-	-	-	26.5
MISCELLANEOUS PROCESSES	63.6	9.9	5.2	1.2	0.0	61.8	30.9	5.7	17.1
*** TOTAL AREAWIDE SOURCES**	**74.5**	**19.9**	**5.2**	**1.2**	**0.0**	**61.8**	**30.9**	**5.7**	**43.6**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	5.4	4.9	31.4	23.5	0.1	1.7	1.6	0.7	0.8
OTHER MOBILE SOURCES	4.0	3.5	27.2	10.8	0.0	0.6	0.5	0.5	0.0
*** TOTAL MOBILE SOURCES**	**9.4**	**8.4**	**58.6**	**34.2**	**0.2**	**2.2**	**2.2**	**1.2**	**0.8**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**372.7**	**59.0**	**74.9**	**43.5**	**1.4**	**70.7**	**37.4**	**10.2**	**51.7**
GRAND TOTAL FOR KERN COUNTY	**394.0**	**68.8**	**127.9**	**74.4**	**10.0**	**96.7**	**53.6**	**17.9**	**54.0**

Start a new query.

ATTACHMENT D: HEALTH RISK ANALYSIS (ELECTRONIC FILES)

ATTACHMENT E: CUMULATIVE PROJECTS LIST

Synagro - SKIC Composting Facility: 6-Mile Project List

CaseID	Name	ProjectLocation	Request	CaseTypeCode	NUMBER	MAP	SECTION	Notes	TownshipRangeSection	APN	Acreage
7240 7454 7239	HAMPTON, BOB/SEAN EDGAR	N/S CEDAR ST, E OF HWY 119 PTN SEC 7	GPA TO 3.4 ZC TO NR(5) SMALL VOLUME TRANSFER FACILITY	GPA ZCC CUP	1 16 20	157					
2668 2669	KOCH OIL CO.		ZC TO M-3 COMMERCIAL COACH FOR OFFICE	ZCC CUP	5 2	159					
15034	Algonquin Power Company Attn Julian Ristow	Santiago Rd. and Souoth Lake Rd.	EOT for previously-approved CUP 6, Map 158 (Resolutions 111-11, 112-11, and 113-11). SKIC Solar	CUP	6	158				220-110-79	, 0.00
12892	ANTERRA ENERGY SERVICES	HWY. 166, EAST OF MARICOPA	NONHAZARDOUS WASTE TREATMENT & RECYCLE FACILITY	CUP	2	205			11/22-4	239-080-75	, 0.00
8269	ANTONGIOVANNI, STAN/McINTOSH ASSOC	SE/4 SEC 25	DAIRY	CUP		159					
6555	BAKERSFIELD CELLULAR/D & D	S/S ST RT 166, NE/4 SEC 11	CELLULAR COMM FACILITY	CUP	1	204					
5905	BAKERSFIELD CELLULAR/KLASSEN	19296 NORD AVENUE	CELLULAR COMM FACILITY	CUP	4	159					
9238	BANDUCCI FARMING, LLC	DAIRY RD & ADOHR RD	DAIRIES (2)	CUP		159					
281	BARRY & EWING CORP.		COMM COACH OFFICE	CUP	12	157					
402	BILLINGSLEY, ALLAN & PATSY	NE COR WESTERN MIN. RD & SHORT RD	MH IN-LIEU	CUP	9	206					
10211	BONANZA FARMS/DAVID ALBERS	OLD RIVER RD, 2 MI S/I-5	DAIRY	CUP	6	159	14		32/26-14	295-100-03	3,811.00
6729	BORBA & SON/MARTY LEVINE	SE/4 SEC 2	B/S: DAIRY	CUP	12	141					
6104	BOS, JOHN/MARTIN LEVINE	PTN SEC 27	DAIRY WO #97239	CUP	9	141					
546	BRUMMET, JAMES/ JOHN HOFFMAN	S OF MARICOPA HWY, SEC 7	CONTRACTORS STORAGE YARD	CUP	10	206					
9710	BRUMMETT, JAMES/AMERISTAR	SWC MARICOPA HWY & BRUMMETT WAY	MOBILEHOME AS PRIMARY USE	CUP	18	206					
587	BURKE, JOHN		MH IN LIEU	CUP	11	157					
9908	CHEEMA, HANSRAJ/D & D	SWC OLEN AVE & S ENOS LN	AGRICULTURAL TRUCKING FACILITY	CUP	5	140					
8658	CITY OF LA HYPERION TREATMENT PLANT/CITY OF LA PW	S/2 SW/4 SEC 8	PUBLIC AGENCY BLDG	CUP	15	141					
5992	COMMUNICATION SYSTEM DEVELOPMT	PTN SE/4 SEC 22 ON E/S I-5	CELLULAR COMM FACILITY	CUP	8	141					
5764	CONTEL CELLULAR/MBF SERVICES	24265 HIGHWAY 166	CELLULAR COMM FACILITY	CUP	14	206					
10216	COSTAMAGNA, ERNIE/MACEDO ENG'G	S/S SO LAKE RD, 1/2 MI W/HILL RD	DAIRY (BUENA VIEW)	CUP	5	159	17		32/26-17	295-040-36	1,285.00
10217	COSTAMAGNA, ERNIE/MACEDO ENG'G	S/S S LAKE RD, 2.5 MI E/GDNR FLD RD	DAIRY (GARDNER VIEW)	CUP	4	158	29		32/25-29	220-170-07	1,124.00
10218	COSTAMAGNA, ERNIE/MACEDO ENG'G	N/S S LAKE ROAD, 2 MI W/SUNSET RR	DAIRY (SUNSET EXPRESS)	CUP	3	158					
1358	EXCEL MINERALS CO. INC	PTN SEC 28	RECLAMATION PLAN	CUP	16	157					
14218	Fresno MSA Limited	West of Old River and SR-166	150 Cell Tower	CUP	2	204			11/21-07	239-350-09	, 38.50
1623	GENERAL PRODUCTION SERVICE	SEC 19, W OF HWY 33	TEMP. BATCH PLANT (CONCRETE)	CUP	14	157					
12059	GRAVIS, CORKY /METRO READY MIX	SEC ENOS LANE @ UNION	CONCRETE BATCH PLANT	CUP		140			31/25-13	184-030-07	, 4.50
1738	GRIFFITH, RANDY	SW 1/4 SEC 7	SKI LAKE & R-V PARK	CUP	3	159					
13758	HERNANDEZ, JOSE	GARDENER FIELD RD.	COMMUNITY CENTER	CUP		157			32/24-23	220-030-13	, 10.50
2215	JONES, BILL/VALLEY MANUF HOMES	N/2 NW/4 SW/4 SEC 26	MOBILEHOME W/O FOUNDATION STND	CUP		157					
2223	JONES, JEFF	PTN NE 1/4 SEC 26	COMMERCIAL COACHES (SKYDIVING)	CUP	17	157					
8711	KERN COUNTY TRAP & SKEET/McINTOSH & ASSOC	N/S IRONBARK RD, W/ENOS LANE	SHOOTING RANGE	CUP	4	140					
2661	KLOTZ, DWAYNE	PTN NE 1/4 SEC 7	SINGLE FAMILY DWELLING-MH	CUP	12	206					
10074	LAYTON MELTON PRODUCTIONS/D MELTON ET AL	PTN SEC 10	RACE TRACK	CUP	21	157					
7026	LINDSAY, DOUGLAS	SWC ENOS LN & UNION RD	MOTORCYCLE RACE TRACK	CUP		140					

Synagro - SKIC Composting Facility: 6-Mile Project List

CaseID	Name	ProjectLocation	Request	CaseTypeCode	NUMBER	MAP	SECTION	Notes	TownshipRangeSection	APN	Acreage
15254	Maricopa Sun by Jeff Roberts	Maricopa Sun Solar Re-Activate	CUP	CUP		159	19		19/32-26		, 0.00
14399	Massimo Freda	19300 Copus Road, Bakersfield	CUP for alcoholic Apple Cider (brewery)	CUP		158			32/25-36	220-160-40	, 9.60
15057	Matthew Estrada	11006 Enos Lane, Bakersfield	A CUP for an indoor non-lethal simulated firearms training facility	CUP		140				184-012-27	, 0.00
13612	MATTIVI BROS LEASING	OFF HWY. 166	BATCH PLANT - 3 YEAR PERIOD	CUP	3	205			11/22-24	239-090-41	, 0.00
10662	NEXTEL COMM/J LIENERT	N/S PIERI RD, W/HILL RD	CELLULAR COMM FACILITY	CUP	16	141					
7263	NEXTEL COMMUNICATION/T QUINN	SW/4 SEC 10	CELLULAR COMM FACILITY	CUP	18	157					
6140	O'BRIEN, S/PERRIS VALLEY SKY	SEC DUVAL ST & SOUTH LAKE RD	MODIFY CUP FOR RV PARK & REST	CUP	17	157					
5922	PALLA FARMS/MARTIN LEVINE	PTN S/2 SEC 19, 20, 21, N/2 SEC 28	DAIRIES WO #97214	CUP	7	141					
3419	PALLA ROSA FARMS/ LIVIO PALLA	SEC 25	DAIRY	CUP	5	141					
14770	Pensco Trust Company et. al. (see Attachment)	Santiago Road	CUP for Solar Power Generation Facility	CUP		158			32/25-	220-110-61	118.459
5159 5778 6300 6327	PLANTENGA, GEORGE/L WIELENGA	PTN SEC 36	DAIRY EXTENSION OF TIME EXTENSION OF TIME DELETION OF CONDITION	CUP	6	141					
6704 7925 7272	PLANTENGA, GEORGE/L WIELENGA	S/S BEAR MTN BLVD, N/S MILLUX RD	DAIRY EXTENSION OF TIME EXTENSION OF TIME	CUP	11	141					
13705	QUAN PHU BY ROGER FRYMIRE (VIKON)	SOUTH LAKE ROAD	POUTRY PROCESSING PLANT	CUP		158			32/25-22	220-110-14	,120.00
13115	R. WYATT SANDERS TRUST BY T-SQUARED	23102 SOUTH LAKE RD. TAFT, CA 93268	CUP & WILLIAMSON ACT LAND USE CANCELLATION TO ALLOW FOR THE DEVELOPMENT OF A 253 ACRE SOLAR FARM	CUP		158			32/25-20	220-120-09	,253.00
14086 13978	R.T. Martin	13453 Olen Ave	CUP for Equestrian Facility	CUP	6	140				184-012-18	, 0.00
8873	RENFROE, WILLIAM	PTN SEC 34,W/S BASIC SCHOOL RD	PRIVATE AIRSTRIP, SKYDIVING SCHOOL & RV PARK	CUP		189					
3708	RESOURCE RENEWAL TECHNOLOGIES	W/2 NW/4 NE/4 SEC 8	ASPHALT PLANT-TEMPORARY	CUP	13	206					
8557	RESPONSIBLE COMPOST MNG/COFFIN, JOHN	1 MI S/TAFT HWY, 1/2 MI W/I-5	COMPOSTING FACILITY	CUP	14	141			31/26-07	184-090-09	,200.00
8967	ROTH, JOHN		MILLING & SCREENING OF PUMICE	CUP	17	206					
10077	ROTH, JOHN	25103 HIGHWAY 166	MOBILEHOME AS PRIMARY USE	CUP	19	206					
5034	RRT, INC/INSIGHT ENG'G CONS		RECYCLE CONSTR MATERIALS	CUP		206					
5035	RRT, INC/INSIGHT ENG'G CONS	WO # 98207	PERMANENT BATCH PLANT	CUP	15	206					
6796 9656	SATTAR, MOHAMMED	15751 COPUS RD PTN NW/4 SEC 32	SLAUGHTER HOUSE	CUP	2	187					
14957	SKIC Development Company, LLC by Porter & Associat	South Lake Road & Santiago Road	CUP for solar pv facility	CUP	8	158	24		32/25-	220-110-55	
7787	SPECTRA SITE COMM/MATT SIMS	PTN NW/4 SEC 7	CELLULAR COMM FACILITY	CUP	3	140					
11552	SYNAGRO/ELIZABETH OSTOICH		MODIFICATION OF CONDITIONAL USE PERMIT	CUP	2	158					, 0.00
15280	T&R Enterprise LLC (Jordan Treaster/ Partner)	S/E corner of S Enos & Union Rd	Allow a bulk soil amendment storage	CUP		140			31/25-13	184-030-07	, 0.00
7469	VANDERHAM, PETE/L WIELENGA	PTN SEC 1	DAIRY	CUP		159					
13944	Vulcan Materials Company	16101 HWY 166	SMARA for expansion of existing mine site. EIR will be required	CUP	4	205					, 0.00
9475	WATSON, C JAY/JOHN WILSON	S/2 SE/4 SEC 2 (11333 ENOS LANE)	ROCK, GRAVEL, SAND CRUSHING & PROCESSING	CUP		140					
4748	WESTERN STATES MT CO	PTN SEC 23	TRANSMISSION TOWER	CUP	4	141					
15372	Wiley D. Hughes Surveying, Inc.	Ss Hwy 119 apprx 1/2 mi west of I-5	To allow a hotel, convenience mkt, auto and trucking fueling station	CUP	3	141				184-090-58	, 9.68

Synagro - SKIC Composting Facility: 6-Mile Project List

CaseID	Name	ProjectLocation	Request	CaseTypeCode	NUMBER	MAP	SECTION	Notes	TownshipRangeSection	APN	Acreage
9013 7243	KERN COUNTY PLANNING	RRT, INC N/S HWY 166, APP 2 1/2MI E/MARICOPA	REVOCATION REVOCATION OF CUP 15	CUP	15	206					
8349 7279	NEXTEL COMMUNICATION/STEVE WINN	26782 E CEDAR ST, TAFT	EXTENSION OF TIME CELLULAR COMM FACILITY	CUP	19	157					
8983	PLANTENGA, GEORGE/KLASSEN CORP		DELETE MAJOR & SECONDARY ALIGNMENTS	GPA	5	141					
10512	SELINGER, STEVE	SEC 8 & 18 - BUENA VISTA HILLS	SPECIFIC PLAN 4.3	GPA		140			13/25-18	298-090-20	,787.72
7112 7236	SMITH, BILL ET AL/WILSON & ASS	PTN SEC 8 & 17	PC: CIRC AMENDMENT WO#00010A	GPA	5	140					
12165	WESTERN MEADOWS SPORTS, INC. BY DANIEL SCALES	NEC ENOS LN & SHOTGUN RD	DEVELOPMENT OF A SPECIFIC PLAN	GPA		140			31/25-14	184-030-53	,287.95
10309 10310	SCHACKMAN, CONRAD & SCOTT BY WILEY HUGHES SURVEY	SEC TAFT HWY & ENOS LANE	GPA TO 7.1 ZC TO M-1	GPA ZCC	7 13	140			31/25-01	184-010-82	, 18.12
12087 12088	KENNETH KERR	Enos Lane and Hwy 119 SWC	8.4 to 6.3 A to M-1 8.4 to 6.3 A to M-1 INCLUDES EXCLUSION TO AG PRESERVE AS ONLY THE 10 ACRES WAS EXCLUDED NOT THE 30	GPA ZCC	8 14	140			31/25-2	184-010-93	, 30.00
6615 6616	JHAJ, RUPINDER/PASQUINI ENG'G	SWC TAFT HWY (SR 119) & ENOS LN	GPA TO 6.2 WO #98259 ZC TO M-1 PD WP # 98259	GPA ZCC	4 10	140					
9627 9628	KERR, KENNETH/B ANDERSON	S/S TAFY HWY, 1/2 MI W/ENOS LANE	GPA TO LI - B/S APPROVED 6.3 ZC TO M-1 PD	GPA ZCC	6 12	140					
11354 11355	MITCHELL, MARA	1.5 MI S ROUTE 119/ ENOS LANE	ZC TO E (2 1/2) & C-2	GPA ZCC		140	11		31/25-	184-010-75	, 80.00
6646 5033	RRT, INC/INSIGHT ENG'G	PTN NE/4 SEC 8	GPA TO 7.2 WO 98207 ZC TO NR(5) WO #98207	GPA ZCC	2 21	206					
14346 14679	San Joaquin Land and Cattle Co.	10131 Enos Lane	GPA from 8.3 to 7.1 ZCC from A to M-1 PD	GPA ZCC		140			31/25-02	184-012-47	, 39.15
8422 8423	WEST SIDE WASTE/SEAN EDGAR	PTN SEC 7; N/S CEDAR ST	GPA TO 7.1 ZC TO M-1 PD	GPA ZCC	2 17	157					
13258 13259	MARICOPA SUN LLC	LAKE ROAD AREA	700 MW SOLAR PROJECT	GPA CUP	5 5	158	19		32/25-19	220-110-08	6,046.00
13260 13261	MARICOPA SUN LLC	COPUS RO AREA, W OF I-5	700 MW SOLAR PROJECT	GPA CUP	1 7	159			32/26-23	295-030-17	6,046.00
6576 6534	BORBA DAIRY/MARTY LEVINE	PACIFICANA SP	PACIFICANA SP #98256 DAIRY WO #98256 RESCIND	GPA CUP	2 10	141					
11922	BOWLES, HENRY M	NWC GOLF COURSE RD & IRONBARK RD	4.3 TO 4.1 (SPECIFIC PLAN)	SPA		140	08		31/25-08	184-020-52	,120.15
123	ANDREWS, DON/PORTER-ROBERTSON	PTN SEC 36	ZC TO ADD FPS	ZCC	4	158					
8083	BARTON BROS. FARMS/SIMPSON V C	NE COR OLD RIVER RD & MARICOPA HWY	MINI-MART FARM OFF PD PLAN	ZCC	7	204					
383	BERRY PETRO. CO./BORTON ET AL	2 1/2 MI. S. OF TAFT	ZC TO NR(20)	ZCC	9	157					
13438	BERRY PETROLEUM CO/DEWALT CORP	HWY 33/2 MILES SOUTH OF TAFT	TO NR (5)	ZCC	18	157			32/24-31	220-080-17	, 38.00
547	BRUMMET, JAMES/JOHN HOFFMAN	S OF MARICOPA HWY, SEC 7	ZC TO NR(5)	ZCC	17	206					
853	CHEVRON USA/ DEWALT-PORTER	PTN SEC 10	ZC TO NR(5)	ZCC	3	205					
856	CHEVRON USA/KCPADS	SEC 31	ZC TO NR(20)	ZCC	4	189					
859	CHEVRON USA/KCPADS	SEC 5,9 PTNS SEC 7, 16	ZC TO NR(20) & A	ZCC	20	206					
863	CHEVRON/KCPADS	VARIOUS	ZCC TO NR(20) & A	ZCC	13	157					
865	CHEVRON/KCPADS	PTN SEC 34	ZC TO A	ZCC	5	189					
993	CORROSION CONTROLS, INC.		ZC TO M-2	ZCC	8	157					
14869	Darryl Jones	N/side of Olen Ave, west of Enos Ln	ZC from A to NR for oilfield service yard	ZCC		140	2		31/25-02	184-012-21	, 20.00
1647	GLASER, SCOTT ET AL/ RWD&D	SE COR I-5 & TAFT HWY	ZC TO C-2 PD	ZCC	5	141					
1649	GLASER, SCOTT/RWDD	PTN NE 1/4 SEC 6	ZC TO A	ZCC	6	141					

Synagro - SKIC Composting Facility: 6-Mile Project List

CaseID	Name	ProjectLocation	Request	CaseTypeCode	NUMBER	MAP	SECTION	Notes	TownshipRangeSection	APN	Acreage
12769	GOETTING, CHARLES/BRUCE ANDERSON	12611 SO. ENOS LANE	Z.C. TO NR 20	ZCC	16	140			31/25-11	184-010-75	, 20.00
1728	GREENLEE, JEFFERY/ RWDD	11664 VALPREDO RD	ZC TO ADD FPS	ZCC	1	187					
1805	HALL, WAYNE / TERRY KYNER	PTN SEC 18	ZC TO ADD FPS	ZCC	7	159					
8103	HUGHES AIRCRAFT CO/S. GRIMES	SOUTH LAKE RD, PTN SEC 13	SATELLITE SYSTEMS PD PLAN	ZCC	3	158					
7945	JENKINS, LARRY & DEBBIE/D & D	N/2 NE/4 SEC 11	ZC TO NR(5) PD	ZCC	11	140					
2651	KIRSTIN DEV. CORP/BERRY & ASSO	PTNS 16 & 17	ZC TO ADD FPS	ZCC	4	205					
2806	LEWIS, OCIE & BETTY	PTN NW 1/4 SEC 35	ZC TO A	ZCC	14	157					
4032	SHELL WESTERN/KCPADS	PTN SEC 31	ZC TO NR(20)	ZCC	12	157					
4086	SLAVICH,NELLIE/JOHN WILSON	E 1/2 SEC 10	ZC TO A FPS	ZCC	19	206					
13195	SLAYDECO, INC./BRUCE ANDERSON	E/S BASIC SCHOOL RD.	ZC TO A	ZCC	24	206			11/23-2	239-131-06	, 40.00
11240	SLAYDECO, INC./DEE SLAYMAN	E/SIDE BASIC SCHOOL ROAD	ZC TO A	ZCC		206			11/23-2	239-131-06	, 38.49
4416	TENNECO WEST INC/S. G. LADD	SEC 4	ZC TO ADD FPS	ZCC	8	204					
8011	TENNECO WEST, INC. /ALTA ENG.		STORAGE TANKS - ABOVE GROUND	ZCC	6	159					
6974 7256	TEXACO EXPL & PROD/SMITH TECH	PTN SEC 10	PC: ZC TO NR(20)PD WO #99023A	ZCC	15	157					
4552	VALLEY COMMUNITIES, INC/S-V IN	SW COR TAFT HWY & I-5	ZC TO C-2 PD	ZCC	7	141					
12586	WATSON, C.J./BRUCE ANDERSON	W/S ENOS LANE	ZC A TO NR(20)	ZCC	15	140			31/25-2	184-012-07	, 80.00
6771	WILDLANDS CONSERVANCY/R ABBOTT		ZC TO A WO #99214	ZCC	9	204					
6772	WILDLANDS CONSERVANCY/R ABBOTT		ZC TO A	ZCC	22	206					
9087	WILLOW BROOK, LLC/D & D	PTN S/2 SE/4 SE/4 SEC 22	ZC TO C-2 PD	ZCC	10	141					
6806 6993	GAMMON, WILLIAM	SW/4 SEC 2	PC: ZC TO A B/S: ZC TO A WO #99017A	ZCC	23	206					
1054 1055	D & L CONSTRUCTION INC	N/S CEDAR ST/ E OF HWY 119	ZC TO NR-5 CONTRACTOR'S STORAGE YARD	ZCC CUP	10 13	157					
1237 1238	DeCLUE, RAY ET AL/J. HOFFMAN	S/S MARICOPA HWY., PTN SEC 7	ZC TO NR(5) CONTRACTOR'S STORAGE YARD(OIL)	ZCC CUP	18 11	206					
4686 4687	WATKINS CONST. BY JOHN HOFFMAN	N/S CEDAR ST.,PTN SEC 7	ZC TO NR(5) OILFIELD EQUIPMENT STORAGE	ZCC CUP	11 15	157					
3158 3159	MORTON RECYCLING	PTN E/2 SEC 34	ZC TO A SOIL RECYCLING FACILITY-NONHAZ	ZCC CUP	6 1	189					

Synagro - SKIC Composting Facility: 1-Mile Project List

CaseID	Name	ProjectLocation	Request	CaseTypeCode	NUMBER	MAP	SECTION	Notes	TownshipRangeSection	APN	Acreage
9238	BANDUCCI FARMING, LLC	DAIRY RD & ADOHR RD	DAIRIES (2)	CUP		159					
10216	COSTAMAGNA, ERNIE/MACEDO ENG'G	S/S SO LAKE RD, 1/2 MI W/HILL RD	DAIRY (BUENA VIEW)	CUP	5	159	17		32/26-17	295-040-36	1,285.00
10217	COSTAMAGNA, ERNIE/MACEDO ENG'G	S/S S LAKE RD, 2.5 MI E/GDNR FLD RD	DAIRY (GARDNER VIEW)	CUP	4	158	29		32/25-29	220-170-07	1,124.00
10218	COSTAMAGNA, ERNIE/MACEDO ENG'G	N/S S LAKE ROAD, 2 MI W/SUNSET RR	DAIRY (SUNSET EXPRESS)	CUP	3	158					
15254	Maricopa Sun by Jeff Roberts	Maricopa Sun Solar Re-Activate	CUP	CUP		159	19		19/32-26		, 0.00
14770	Pensco Trust Company et. al. (see Attachment)	Santiago Road	CUP for Solar Power Generation Facility	CUP		158			32/25-	220-110-61	118.459
13705	QUAN PHU BY ROGER FRYMIRE (VIKON)	SOUTH LAKE ROAD	POUTRY PROCESSING PLANT	CUP		158			32/25-22	220-110-14	,120.00
13115	R. WYATT SANDERS TRUST BY T-SQUARED	23102 SOUTH LAKE RD. TAFT, CA 93268	CUP & WILLIAMSON ACT LAND USE CANCELLATION TO ALLOW FOR THE DEVELOPMENT OF A 253 ACRE SOLAR FARM	CUP		158			32/25-20	220-120-09	,253.00
14957	SKIC Development Company, LLC by Porter & Associat	South Lake Road & Santiago Road	CUP for solar pv facility	CUP	8	158	24		32/25-	220-110-55	
13258 13259	MARICOPA SUN LLC	LAKE ROAD AREA	700 MW SOLAR PROJECT	GPA CUP	5 5	158	19		32/25-19	220-110-08	6,046.00
13260 13261	MARICOPA SUN LLC	COPUS RO AREA, W OF I-5	700 MW SOLAR PROJECT	GPA CUP	1 7	159			32/26-23	295-030-17	6,046.00