

**AIR QUALITY & GREENHOUSE GAS STUDY**  
**for the Construction of**  
**JUNIPER ENERGY LOCKHART 2 SOLAR PROJECT**  
**HINKLEY, CALIFORNIA**

**Prepared for:**

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**October 17, 2022**

October 18, 2022

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Subject: Project Lockhart Solar  
Air Quality and Greenhouse Gas Report  
315 Rox Road  
Hinkley, CA 92347  
Partner Project No. 22-358548.11

Dear Mr. McDaniels:

Partner Engineering and Science, Inc. (Partner) is pleased to provide this Air Quality and Greenhouse Gas Report for Project Lockhart Solar.

We appreciate the opportunity to provide these services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at 732-221-8066.

Sincerely,



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Senior Project Manager

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**GLOSSARY OF TERMS AND ACRONYMS**

<b>Acronym</b>	<b>Description</b>
AB	Assembly Bill
AC	Alternating Current
APCD	Air Pollution Control District
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CH <sub>4</sub>	Methane
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CUP	Conditional Use Permit
DC	Direct Current
EIB	Emission Inventory Branch
EPA	Environmental Protection Agency
GHG	Greenhouse Gases
g/L	Grams per liter
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HFC	Hydrofluorocarbons
HI	Hazard Index
IPCC	Intergovernmental Panel on Climate Change
lb/day	Pounds per day
μg/m <sup>3</sup>	Micrograms per cubic meter
MACT	Maximum Achievable Control Technology
MD	Mojave Desert
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MT	Metric tons
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
N <sub>2</sub> O	Nitrous oxide
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Oxides of nitrogen
O <sub>3</sub>	Ozone
Pb	Lead
PFC	Perfluorocarbon
PM	Particulate Matter

**GLOSSARY OF TERMS AND ACRONYMS**

<b>Acronym</b>	<b>Description</b>
PM <sub>10</sub>	Particulate Matter less than or equivalent to 10 microns in diameter
PM <sub>2.5</sub>	Particulate Matter less than or equivalent to 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million
PV	Photovoltaic
Q	Quarter
RC	Resource Conservation
RGHGRP	Regional Greenhouse Gas Reduction Plan
RL	Rural Living
RLM	Resource/Land Management
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SF <sub>6</sub>	Sulfur hexafluoride
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur dioxide
SO <sub>x</sub>	Oxides of sulfur
TAC	Toxic Air Contaminant
TPY	Tons per year
US	United States
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

## **1.0 INTRODUCTION**

This study provides an analysis of the potential construction-related air quality impacts associated with the proposed Juniper Energy Lockhart 2 Solar Project (Project) located at 315 Roy Street in the City of Hinkley and County of San Bernardino. This report has been prepared by BlueScape Environmental, to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA).

### **1.1 Project Description**

The proposed Project site is located at 315 Roy Street in the City of Hinkley, California and encompasses approximately 80.3 acres of vacant land. Within the 80.3-acre parcel, 53 acres will be disturbed for Project construction. The site lies in Section 32, Township 11 North, Range 4 West, San Bernardino Base and Meridian. There are currently two buildings on the Project site that will be demolished prior to site preparation and grading.

Juniper Energy proposes development of a 10.3 MW<sub>DC</sub> and 8.0 MW<sub>AC</sub> ground mounted tracking solar photovoltaic (PV) and 6.0 MW<sub>AC</sub> long duration energy storage system that will be interconnected to and send renewable electricity to the utility grid. The Project will include a racking system mechanically attached to the ground via driven steel piles.

The Project site is bordered on the north by the approved Lockhart Solar 1 facility and has a zoning designation of Resource/Land Management (RLM) in the current Countywide Plan. The implementing land use/zoning districts within the RLM designation include Rural Living (RL) (SB County 2022). As discussed in Section 3.4, the proposed use of the Project site would be compatible with the land use and zoning designations. Construction for the Project is anticipated to begin in January 2024 and anticipated to be operational in Q3 or Q4 of the same year.

## **2.0 AIR QUALITY SETTING**

Air pollutants are regulated at the national, state, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (USEPA) regulates at the national level; the California Air Resources Control Board (CARB) regulates at the state level; and the Mojave Desert Air Quality Management District (MDAQMD) regulates air quality in San Bernardino County.

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The USEPA is the federal agency designated to administer national air quality regulations, while CARB is the state equivalent in the California Environmental Protection Agency (CalEPA). Local control over air quality management is provided by CARB through multi-county and county-level Air Pollution Control Districts (APCDs) (also referred to as Air Quality

Management Districts). CARB establishes statewide air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide. The County of San Bernardino is located in the Mojave Desert Air Basin (MDAB), which is under the jurisdiction of the MDAQMD.

## **2.1 California Air Resources Board**

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (CCAA), meeting state requirements of the federal Clean Air Act and establishing the California Ambient Air Quality Standards (CAAQS). It is also responsible for setting emission standards for vehicles sold in California and for other emission sources such as consumer products and certain off-road equipment. CARB also established passenger vehicle fuel specifications and oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level. The CCAA is administered by CARB at the state level and by the Air Quality Management Districts at the regional level. Both state and federal standards are summarized in Table 2-1 below. The federal "primary" standards have been established to protect the public health. The federal "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

## **2.2 Mojave Desert Air Quality Management District**

The Project site is located in the portion of the County of San Bernardino, California, that is part of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the MDAQMD. The air quality assessment for the proposed Project includes estimating emissions associated with short-term construction of the proposed Project. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its California Environmental Quality Act and Federal Conformity Guidelines, dated February 2020 (MDAQMD 2020), were adhered to in the assessment of construction-related air quality impacts for the proposed Project.



**TABLE 2-1  
NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM10) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM2.5) <sup>9</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	<b>No National Standards</b>		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

## 2.3 Air Pollutants of Concern

### 2.3.1 Criteria Air Pollutants

The seven criteria air pollutants regulated under the National Ambient Air Quality Standards (NAAQS) are as follows: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), respirable particulate matter (or particulate matter with an aerodynamic diameter of 10 microns or less, PM<sub>10</sub>), fine particulate matter (or particulate matter with an aerodynamic diameter of 2.5 microns or less, PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). The U.S. EPA uses the term VOC and the CARB's Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) to essentially define the same thing. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that do not meet the NAAQS for a particular pollutant are considered to be "non-attainment areas" for that pollutant.

The California Air Resources Board (CARB) is the state regulatory agency with authority to enforce regulations to both achieve and maintain air quality in the state. CARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the California Ambient Air Quality Standards (CAAQS). CARB also reviews operations and programs of the local air districts and requires each air district with jurisdiction over a non-attainment area to develop its own strategy for achieving the NAAQS and CAAQS. The California Clean Air Act of 1988 (CCAA) provides the state with the ability to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards, or more stringent.

Through the CCAA, CARB has established the CAAQS for six criteria air pollutants also regulated by the NAAQS.

### 2.3.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are controlled under a different regulatory process than criteria pollutants. Because no safe level of emissions can be established for TACs region-wide, the regulation of TACs is based on the levels of cancer risk and other health risks posed to persons who may be exposed. Joint federal, state and local regulations aimed at lessening public exposure to TACs are constantly revisited and updated.

Under federal law, 188 substances are listed as Hazardous Air Pollutants (HAPs) that are TACs. Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program. The USEPA establishes regulatory schemes for specific source categories and requires implementation of Maximum Achievable Control Technologies (MACTs) for major sources of HAPs in each source category.

State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program, and is aimed

at HAPs that are a concern in California. The state has formally identified more than 200 substances as TACs and has adopted appropriate control measures for each. Once adopted at the state level, each air district is required to adopt a measure that is equally or more stringent.

As an example of TAC emissions from the proposed Project, development projects generate diesel emissions from construction vehicles during the construction and operational phases. Diesel exhaust is mainly composed of particulate matter and gases.

### **2.3.3 Greenhouse Gases**

Greenhouse Gases (GHG) are gases that trap heat in the atmosphere, analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and aerosols.

Individual GHGs have varying potential to contribute to global warming and atmospheric lifetimes. The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The Intergovernmental Panel on Climate Change (IPCC) identifies the GWP and atmospheric lifetimes of basic GHGs. The CO<sub>2</sub> equivalent (CO<sub>2</sub>e) is a unit used for comparing GHG emissions since it normalizes various GHG emissions to a consistent measure. The reference gas for GWP is CO<sub>2</sub>; therefore, CO<sub>2</sub> has a GWP of one (1). By comparison, the GWP of CH<sub>4</sub> is 21 and the GWP of N<sub>2</sub>O is 310. This means that CH<sub>4</sub> has a greater global warming effect than CO<sub>2</sub> on a molecule per molecule basis. The mass emission of CO<sub>2</sub>e is the mass emissions of an individual GHG multiplied by its GWP.

### **2.3.4 Regional Air Quality**

Air pollution contributes to a wide variety of adverse health effects. The United States Environmental Protection Agency (USEPA) has established NAAQS for six of the most common air pollutants: O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub> and Pb which are known as criteria pollutants. The MDAQMD monitors levels of various criteria pollutants at six (6) permanent monitoring stations throughout the air district.

Attainment status for a pollutant means that the Air District meets the standards set by the USEPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area. Table 2-2 defines the attainment designations within the Mojave Desert AQMD.

<b>Criteria Pollutant</b>	<b>Federal Designation</b>	<b>State Designation</b>
Ozone (8-Hour)	Non-attainment*	Non-attainment
Ozone (1-Hour)	Non-Attainment*	Non-attainment
Carbon Monoxide	Attainment	Attainment
PM <sub>10</sub>	Non-Attainment	Non-attainment**
PM <sub>2.5</sub>	Non-Attainment*	Non-Attainment***
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Non-attainment****
Visibility	No Federal Standard	Unclassified

\* Southwest corner of desert portion of San Bernardino County only.

\*\* San Bernardino County portion only.

\*\*\* Portion of MDAQMD outside of Western Mojave Desert Ozone Non-attainment Area is unclassifiable/attainment.

\*\*\*\* Searles Valley (Northwest corner of San Bernardino County) only.

Source: MDAQMD 2020.

### 2.3.5 Local Air Quality

Existing air quality is measured at established MDAQMD air quality monitoring stations. The purpose of the monitoring stations is to measure ambient concentrations of pollutants, including criteria pollutants, ozone precursors and TACs, and to determine whether the CAAQS and the NAAQS are met. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare.

Relative to the Project site, the nearest long-term air quality monitoring site for NO<sub>2</sub>, O<sub>3</sub> and PM<sub>10</sub> was obtained from the MDAQMD Barstow monitoring station, located approximately 18 miles southeast of the Project site. Data for PM<sub>2.5</sub> was obtained from the MDAQMD Victorville-Park Avenue, located approximately 35 miles South of the Project site. The most recent three (3) years of data available is shown in Table 2-3 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for CO and SO<sub>2</sub> has been omitted as attainment is regularly met and few monitoring stations in the area measure CO or SO<sub>2</sub> concentrations.

<b>TABLE 2-3 AMBIENT AIR BACKGROUND POLLUTANT CONCENTRATIONS/EXCEEDANCES/STANDARDS</b>			
<b>Pollutant</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Ozone (O<sub>3</sub>)</b>			
State maximum 1-hour concentration (ppm)	0.090	<b>0.117</b>	<b>0.099</b>
National maximum 8-hour concentration (ppm)	<b>0.082</b>	<b>0.098</b>	<b>0.087</b>
State maximum 8-hour concentration (ppm)	<b>0.082</b>	<b>0.098</b>	<b>0.088</b>
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	0	<b>3</b>	<b>2</b>
CAAQS 8-hour (>0.070 ppm)/NAAQS 8-hour (>0.070 ppm)	<b>10 / 9</b>	<b>26 / 25</b>	<b>21 / 20</b>
<b>Respirable Particulate Matter (PM<sub>10</sub>)</b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	<b>209.5</b>	<b>213.5</b>	<b>372.7</b>
State maximum 24-hour concentration (µg/m <sup>3</sup> )	*	*	*
Annual federal average concentration (µg/m <sup>3</sup> )	24.8	33.3	29.9
<u>Annual or Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m <sup>3</sup> )	<b>1</b>	<b>1</b>	<b>1</b>
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	17.8	<b>48.4</b>	<b>87.1</b>
State maximum 24-hour concentration (µg/m <sup>3</sup> )	20.0	48.7	87.1
Annual average concentration (µg/m <sup>3</sup> )	7.0	9.7	10.2
<u>Annual or Days Standard Exceeded</u>			
NAAQS 24-hour (>35 µg/m <sup>3</sup> )/Annual (>12.0 µg/m <sup>3</sup> )	0 / No	<b>4</b>	<b>1</b>
CAAQS Annual (>12 µg/m <sup>3</sup> )	7	10.4	10.3
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
National maximum 1-hour concentration (ppb)	59.8	62.8	62.4
State maximum 1-hour concentration (ppb)	59	62	62
Annual average concentration (ppb)	13	14	14

Notes:

µg/m<sup>3</sup> = micrograms per cubic meter; ppb = parts per billion; ppm = parts per million; N/A = Not available.

CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard.

**BOLD** value indicates greater than standard.

PM<sub>10</sub> NO<sub>2</sub>, and O<sub>3</sub> measured at the Barstow Monitoring Station (approx. 18 miles SE of the Project)

PM<sub>2.5</sub> measured at the Victorville Park Ave. Monitoring Station (approx. 35 miles S of the Project)

\* Insufficient data available to determine the value.

In the case of an Annual standard a No or Yes response is provided.

Source: CARB 2020; <https://www.arb.ca.gov/adam/topfour/topfourdisplay.php>

### 3.0 AIR QUALITY IMPACTS

#### 3.1 Significance Criteria Methodology

Air quality modeling was performed in general accordance with the methodologies outlined in the MDAQMD CEQA Guidelines (MDAQMD 2020) to identify construction emissions associated with the proposed Project. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0 which incorporates current air emission data, planning methods and protocol approved by CARB (CAPCOA 2022). The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOC/ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from best management practices and project design features. A newer version of CalEEMod, Version 2022.1, is available but is in "soft release" and subject to changes. Use of the newer version would not be expected to change the conclusions in this report. Accordingly, CalEEMod 2020.4.0 has been used for this Project to determine construction air quality emissions. Output from the model runs for construction activity are provided in Appendix A.

As referenced, construction activities would include demolition of two buildings, site preparation, grading, and construction of the buildings/utilities and related improvements. Construction activities would require the use of equipment that would generate criteria air pollutant emissions. For modeling purposes, it was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed Project were quantified by estimating the types of equipment, including the number of individual pieces of equipment, that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the MDAQMD. Operational emissions were not included in this analysis.

##### 3.1.1 Determination of Significance

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the MDAQMD CEQA and Federal Conformity Guidelines (MDAQMD 2020). Based on these thresholds, a project would result in a significant impact related to air quality if it would (referred to herein as MD thresholds 1 through 4):

- 1) *Generates total emissions (direct and indirect) in excess of the thresholds (shown below in Table 3-1).*
- 2) *Generates a violation of any ambient air quality standard when added to the local background.*
- 3) *Does not conform with the applicable attainment or maintenance plan(s).*
- 4) *Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.*

In addition, the MDAQMD CEQA Guidelines state that the District will clarify upon request which threshold is most appropriate for a given project, but in general, the emissions comparison to the thresholds is sufficient to define significance.

**3.1.2 Significance Thresholds**

The MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 3-1. The MDAQMD’s Guidelines indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds may be considered as having an individually and cumulatively significant air quality impact. The daily construction and operational emission thresholds for pollutants evaluated are as follows:

<b>TABLE 3-1 SIGNIFICANT EMISSIONS THRESHOLDS</b>		
<b>Criteria Pollutant</b>	<b>Annual Threshold (tons)</b>	<b>Daily Threshold (pounds)</b>
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO <sub>x</sub> )	25	137
Volatile Organic Compounds (VOC)	25	137
Sulfur Oxides (SO <sub>x</sub> )	25	137
Particulate Matter (PM <sub>10</sub> )	15	82
Particulate Matter (PM <sub>2.5</sub> )	12	65

**3.2 Construction Emissions**

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) from soil disturbance and exhaust emissions (NO<sub>x</sub> and CO) from heavy construction vehicles. For the purpose of estimating emissions, it was assumed that 53 acres within the parcel would be disturbed and graded for overall site development. No haul trips are expected because import or export of soils will not be required to achieve final grades. Construction phases would generally consist of demolition, site preparation and grading, and construction of the solar PV energy storage system and the associated racking system.

Construction is anticipated to begin in January 2024, with completion in Q3 or Q4 of the same year. Construction duration by phase is shown in Table 3-2. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines. Site specific construction fleet may vary due to specific Project needs at the time of construction.



<b>Phase Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Days</b>
Demolition	01/01/24	01/05/24	5
Site Preparation	01/08/24	01/12/24	5
Grading	01/15/24	02/02/24	15
Building Construction	02/05/24	05/06/24	66

Grading and building construction would involve the greatest concentration of heavy equipment use and the highest potential for fugitive dust emissions. The Project would be required to comply with MDAQMD Rule 403, Fugitive Dust Control (Amended 10/28/20), which identifies fugitive dust standards and is required to be implemented at any project with a disturbed surface area of at least 20 acres, or at non-residential construction/demolition sites with a disturbed surface area of at least 5 acres. Therefore, the following conditions, which generally reduce fugitive dust emissions, were included in CalEEMod for grading and building construction phases of construction. In addition to these conditions, the Project will be required to obtain a MDAQMD approved Dust Control Plan. The following are conditions for construction/demolition activities, defined in Rule 403(C)(6):

- a) Obtain and maintain a District-approved Dust Control Plan as set forth by Section (D) of the Rule;
- b) Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For the purposes of this Rule, use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance;
- c) Take actions sufficient to prevent Project-related Trackout onto paved surfaces;
- d) Cover loaded haul vehicles while operating on Publicly Maintained paved surfaces;
- e) Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than thirty days, except when such delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate Visible Fugitive Dust emissions;
- f) Cleanup Project-related Trackout or spills on Publicly Maintained paved surfaces within twenty-four hours;
- g) Reduce non-essential Earth-Moving Activity under High Wind conditions. For purposes of this Rule, a reduction in Earth-Moving Activity when visible dusting occurs from moist and dry surfaces due to wind erosion shall be considered sufficient to maintain compliance;

- h) Maintain the natural topography to the extent possible during grading and other earth movement;
- i) Provide a construction schedule that specifies construction of parking lots and paved roads first, where feasible, and upwind structures prior to downwind structures;
- j) Cover or otherwise contain Bulk Material carried on haul trucks operating on paved roads; and
- k) Remove Bulk Material tracked onto paved road surfaces.

In addition, per Rule 403(C)(7), a construction/demolition source disturbing more than 10 or more acres shall:

- a. Provide Stabilized access route(s) to the Project site as soon as feasible. For purposes of this Rule, as soon as feasible shall mean prior to the completion of Construction/Demolition activity.
- b. Maintain natural topography to the extent possible;
- c. Construct parking lots and paved roads first, where feasible; and
- d. Construct upwind portions of Project first, where feasible.

Further, per Rule 403(C)(9) an Owner/Operator of any Solar Project subject to this Rule shall:

- a. Obtain and maintain a District-approved Dust Control Plan; and
- b. Not cause or allow PM<sub>10</sub> to exceed 100 micrograms per cubic meter when determined using upwind and downwind samples collected on federal reference method samplers at the property line for more than four (4) hours in any consecutive 24 hours, except during High Winds.

In addition to MDAQMD Rule 403 conditions above, emissions modeling also includes the use of low-VOC paint (50 g/L for construction for any interior and exterior coatings, with 100 g/L for parking lot paint) as required by MDAQMD Rule 1113.

### **3.2.1 Construction Emissions Summary**

Table 3-3 summarizes the Project maximum daily construction emissions, including dust control measures. Based on the emissions shown, construction of the proposed Project would not exceed the MDAQMD regional construction emission thresholds for daily emissions. Thus, the Project construction would not violate an air quality standard or result in a cumulatively considerable increase in ozone or particulate matter emissions or expose receptors to substantial pollutant concentrations (MD thresholds 1 and 2).

<b>TABLE 3-3 MAXIMUM DAILY CONSTRUCTION EMISSIONS WITH CONTROL MEASURES</b>						
	<b>Maximum Emissions (lbs/day)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Summer Daily Maximum	6.10	32.3	63.8	0.211	15.7	4.87
Winter Daily Maximum	5.98	33.1	57.1	0.201	15.7	4.87
<b>Significance Thresholds</b>	<b>13</b>	<b>137</b>	<b>548</b>	<b>137</b>	<b>82</b>	<b>65</b>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

See Appendix for CalEEMod ver. 2020.4.0 computer model output for daily construction emissions.

Table 3-4 summarizes the Project maximum annual construction emissions, including dust control measures. Based on the emissions shown, construction of the proposed Project would not exceed the MDAQMD regional construction emission thresholds for annual emissions. Thus, the Project construction would not violate an air quality standard or result in a cumulatively considerable increase in ozone or particulate matter emissions or expose receptors to substantial pollutant concentrations (MD thresholds 1 and 2).

<b>TABLE 3-4 MAXIMUM ANNUAL CONSTRUCTION EMISSIONS WITH CONTROL MEASURES</b>						
	<b>Maximum Emissions (tons/year)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Annual Maximum	0.206	1.27	2.03	0.007	0.548	0.177
<b>Significance Thresholds</b>	<b>25</b>	<b>25</b>	<b>100</b>	<b>25</b>	<b>15</b>	<b>12</b>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

See Appendix for CalEEMod ver. 2020.4.0 computer model output for annual construction emissions.

### 3.3 Objectionable Odors

The proposed Project would involve the use of diesel-powered construction equipment. Diesel exhaust may be noticeable temporarily at adjacent properties; however, construction activities would be temporary. The Project does not include industrial or agricultural uses that are typically associated with objectionable odors. Therefore, impacts associated with objectionable odors would be less than significant.

### **3.4 Conformance with Plans**

The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans for development projects is determined by demonstrating compliance with Air Quality Management Plans (AQMPs).

Growth projections included in the AQMPs form the basis for the projections of air pollutant emissions and are based on general plan land use designations and the Southern California Association of Governments (SCAG) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) demographics forecasts (SCAG 2017). While SCAG has recently adopted the 2020-2045 RTP/SCS, the MDAQMD has not released an updated AQMP that utilizes information from the 2020-2045 RTP/SCS. As such, this consistency analysis is based off the 2016-2040 RTP/SCS. The population, housing, and employment forecasts within the 2016-2040 RTP/SCS are based on local general plans as well as input from local governments, such as the County. The MDAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the AQMPs.

When the 2016-2040 RTP/SCS was adopted, the property likely was designated Resource Conservation (RC). Solar generation facilities are allowed under the current land use designation and was allowed under the RC land use designation. However, the zoning is expected to be changed to RC with Board approval of an upcoming County-initiated Zoning ordinance and map update. In the event the Project is considered prior to the adoption of the County-initiated zoning ordinance and map update, the Project has requested a site-specific zone change for the Project Site from RL to RC. The RC land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. Utility scale Renewable Energy Facilities are allowed in this zone. Solar generation facilities are permitted under the RC zone upon approval of a Conditional Use Permit (CUP). The Project would therefore conform to local use plans (MD threshold 3).

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), 403 (Fugitive Dust), and Rule 1113 (Architectural Coatings).

Since the Project would conform to local land use plans and would comply with all applicable MDAQMD Rules and Regulations, impacts related to MD threshold 3 would be less than significant.

## 4.0 GREENHOUSE GAS IMPACTS

### 4.1 Significance Criteria Methodology

The Project has been evaluated to determine if it will result in a significant GHG impact. Land uses such as the Project affect GHGs through construction-source and operational-source emissions, which were defined in detail in Section 3.0.

The significance of these potential impacts is described in the following section.

#### 4.1.1 Determination of Significance

The criteria used to determine the significance of potential Project-related GHG impacts are taken from MDAQMD's CEQA guidelines, which bases their significance criteria on the Initial Study Checklist in Appendix G of the State CEQA Guidelines. Based on these thresholds, a project would result in a significant impact related to GHG if it would (MDAQMD 2020):

- 1) *Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*
- 2) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?*

#### 4.1.2 Significance Thresholds

The MDAQMD has established 100,000 tons of CO<sub>2</sub>e per year or 548,000 pounds per day as the District's significant emissions threshold for greenhouse gases.

### 4.2 Construction Emissions

Project construction activities would generate CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions. As discussed in Section 3.0, construction-related emissions are expected mainly from the exhaust of heavy construction vehicles.

#### 4.2.1 Construction Emissions Summary

The construction emissions are presented in Table 4-1. As shown in Table 4-1, the Project would result in 21,958 lbs CO<sub>2</sub>e per day and 725.2 tons CO<sub>2</sub>e per year, without accounting for applicable regulatory requirements and renewable energy. GHG emission impacts before regulatory requirements are well below the MDAQMD significance thresholds.

<b>TABLE 4-1 CONSTRUCTION GHG EMISSIONS</b>				
	<b>GHG Emissions</b>			
	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>	<b>CO<sub>2</sub>e</b>
Maximum Daily Construction Total (lb CO <sub>2</sub> e/day)	21,543	1.62	1.25	21,958
<b>Daily Construction Total (lb CO<sub>2</sub>e/day)</b>	<b>21,958</b>			
<b>Significance Threshold (lb CO<sub>2</sub>e/day)</b>	<b>548,000</b>			
Annual Construction Total (MTCO <sub>2</sub> e/year)	645.1	0.056	0.038	657.9
Total (MTCO <sub>2</sub> e/year)	657.9			
<b>Total (tons CO<sub>2</sub>e/year)</b>	<b>725.2</b>			
<b>Significance Threshold (tons/year)</b>	<b>100,000</b>			

See Appendix A for CalEEMod ver. 2020.4.0 computer model output for daily and annual construction emissions.

### 4.3 Conformance with Plans

In March 2021, San Bernardino County adopted a Regional GHG Reduction Plan (RGHGRP), which provides a framework for attaining SB 32 GHG reduction goals. The RGHGRP recommends general GHG reduction measures and jurisdiction-specific measures, including those for unincorporated areas of the county. Unincorporated San Bernardino selected a goal to reduce its community GHG emissions to a level that is 40% below its 2020 GHG emissions level by 2030. Approximately 80% of this reduction goal will be achieved through state efforts and the remaining 20% through local efforts. Of the ten local measures selected by unincorporated San Bernardino, two apply to the Lockhart 2 Solar Project. GHG reduction measure Water-3 encourages water-efficient landscaping practices and Waste-2 encourages increased waste diversion reduction as applicable. The proposed Project would be consistent with applicable portions of the RGHGRP.

The Project’s consistency with SB 32 (2017 Scoping Plan) has also been reviewed (CARB 2017). It should be noted that the Project’s consistency with the 2017 Scoping Plan also satisfies consistency with AB 32 since the 2017 Scoping Plan is based on the overall targets established by AB 32. Consistency with the 2008 Scoping Plan is not necessary, since the target year for the 2008 Scoping Plan was 2020, and the Project’s buildout year is 2024. As such the 2008 Scoping Plan does not apply and consistency with the 2017 Scoping Plan is relevant. The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. The Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly

to the Project. Therefore, the proposed Project would result in a less than significant impact with respect to GHG emissions for GHG Impact #2.

## **5.0 FINDINGS AND CONCLUSIONS**

The construction air quality impacts evaluation presented in the preceding analysis demonstrates that Project short-term emissions from construction of the Project are below all applicable MDAQMD daily and annual thresholds of significance. Therefore, emissions from Project construction are considered less than significant.

## 6.0 REFERENCES

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## **APPENDIX A**

### **CALEEMOD AIR EMISSION MODEL RESULTS**

Daily Summer Emissions for Construction  
Daily Winter Emissions for Construction  
Annual Emissions for Construction

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Lockhart 2 Solar PV Project  
San Bernardino-Mojave Desert County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	53.00	Acre	53.00	2,308,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Statewide Average				
<b>CO2 Intensity (lb/MWhr)</b>	453.21	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

- Project Characteristics -
- Land Use -
- Construction Phase - Construction scheduled per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - Per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - per client info.
- Demolition - Two structures as measured on google earth
- Grading - Grading is the same as site acres.
- Consumer Products - Per proposal, operational emissions are not being calculated
- Area Coating - Per proposal, operational emissions are not being calculated
- Landscape Equipment - Per proposal, operational emissions are not being calculated

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Energy Use - Per proposal, operational emissions are not being calculated

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	66.00
tblConstructionPhase	NumDays	70.00	5.00
tblConstructionPhase	NumDays	110.00	15.00
tblConstructionPhase	NumDays	40.00	5.00
tblConstructionPhase	PhaseEndDate	2/2/2029	5/6/2024
tblConstructionPhase	PhaseEndDate	4/5/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	11/1/2024	2/2/2024
tblConstructionPhase	PhaseEndDate	5/31/2024	1/12/2024
tblConstructionPhase	PhaseStartDate	11/2/2024	2/5/2024
tblConstructionPhase	PhaseStartDate	6/1/2024	1/15/2024
tblConstructionPhase	PhaseStartDate	4/6/2024	1/8/2024
tblGrading	AcresOfGrading	22.50	53.00
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

**2.0 Emissions Summary**

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Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Area	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
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
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
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0124</b>

**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	lb/day										lb/day					
Area	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
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
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
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0124</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	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
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	Demolition	Demolition	1/1/2024	1/5/2024	5	5	
2	Site Preparation	Site Preparation	1/8/2024	1/12/2024	5	5	
3	Grading	Grading	1/15/2024	2/2/2024	5	15	
4	Building Construction	Building Construction	2/5/2024	5/6/2024	5	66	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 53**

**Acres of Paving: 53**

**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
Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Grading	Plate Compactors	2	8.00	8	0.43
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Trenchers	1	8.00	78	0.50

**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
Demolition	3	8.00	0.00	16.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	970.00	378.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area



Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.6977	0.0000	0.6977	0.1057	0.0000	0.1057			0.0000			0.0000
Off-Road	1.4636	14.7199	6.5131	0.0178		0.6596	0.6596		0.6082	0.6082		1,714.9023	1,714.9023	0.5415		1,728.4390
<b>Total</b>	<b>1.4636</b>	<b>14.7199</b>	<b>6.5131</b>	<b>0.0178</b>	<b>0.6977</b>	<b>0.6596</b>	<b>1.3572</b>	<b>0.1057</b>	<b>0.6082</b>	<b>0.7139</b>		<b>1,714.9023</b>	<b>1,714.9023</b>	<b>0.5415</b>		<b>1,728.4390</b>

**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	lb/day										lb/day					
Hauling	7.6400e-003	0.3531	0.1075	1.7700e-003	0.0560	3.6500e-003	0.0597	0.0154	3.5000e-003	0.0189		192.4926	192.4926	8.1200e-003	0.0305	201.7874
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
Worker	0.0314	0.0186	0.3148	8.8000e-004	0.1022	4.8000e-004	0.1027	0.0271	4.4000e-004	0.0275		89.3440	89.3440	1.9000e-003	1.9700e-003	89.9790
<b>Total</b>	<b>0.0390</b>	<b>0.3717</b>	<b>0.4223</b>	<b>2.6500e-003</b>	<b>0.1582</b>	<b>4.1300e-003</b>	<b>0.1624</b>	<b>0.0425</b>	<b>3.9400e-003</b>	<b>0.0464</b>		<b>281.8366</b>	<b>281.8366</b>	<b>0.0100</b>	<b>0.0325</b>	<b>291.7664</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.2721	0.0000	0.2721	0.0412	0.0000	0.0412			0.0000			0.0000
Off-Road	1.4636	14.7199	6.5131	0.0178		0.6596	0.6596		0.6082	0.6082	0.0000	1,714.9023	1,714.9023	0.5415		1,728.4390
<b>Total</b>	<b>1.4636</b>	<b>14.7199</b>	<b>6.5131</b>	<b>0.0178</b>	<b>0.2721</b>	<b>0.6596</b>	<b>0.9317</b>	<b>0.0412</b>	<b>0.6082</b>	<b>0.6494</b>	<b>0.0000</b>	<b>1,714.9023</b>	<b>1,714.9023</b>	<b>0.5415</b>		<b>1,728.4390</b>

**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	lb/day										lb/day					
Hauling	7.6400e-003	0.3531	0.1075	1.7700e-003	0.0560	3.6500e-003	0.0597	0.0154	3.5000e-003	0.0189		192.4926	192.4926	8.1200e-003	0.0305	201.7874
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
Worker	0.0314	0.0186	0.3148	8.8000e-004	0.1022	4.8000e-004	0.1027	0.0271	4.4000e-004	0.0275		89.3440	89.3440	1.9000e-003	1.9700e-003	89.9790
<b>Total</b>	<b>0.0390</b>	<b>0.3717</b>	<b>0.4223</b>	<b>2.6500e-003</b>	<b>0.1582</b>	<b>4.1300e-003</b>	<b>0.1624</b>	<b>0.0425</b>	<b>3.9400e-003</b>	<b>0.0464</b>		<b>281.8366</b>	<b>281.8366</b>	<b>0.0100</b>	<b>0.0325</b>	<b>291.7664</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Site Preparation - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6492	6.2575	9.1933	0.0132		0.2831	0.2831		0.2619	0.2619		1,268.0073	1,268.0073	0.3969		1,277.9306
<b>Total</b>	<b>0.6492</b>	<b>6.2575</b>	<b>9.1933</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2831</b>	<b>0.2831</b>	<b>0.0000</b>	<b>0.2619</b>	<b>0.2619</b>		<b>1,268.0073</b>	<b>1,268.0073</b>	<b>0.3969</b>		<b>1,277.9306</b>

**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	lb/day										lb/day					
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
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
Worker	0.0510	0.0303	0.5116	1.4400e-003	0.1661	7.8000e-004	0.1668	0.0440	7.1000e-004	0.0448		145.1840	145.1840	3.0900e-003	3.2000e-003	146.2158
<b>Total</b>	<b>0.0510</b>	<b>0.0303</b>	<b>0.5116</b>	<b>1.4400e-003</b>	<b>0.1661</b>	<b>7.8000e-004</b>	<b>0.1668</b>	<b>0.0440</b>	<b>7.1000e-004</b>	<b>0.0448</b>		<b>145.1840</b>	<b>145.1840</b>	<b>3.0900e-003</b>	<b>3.2000e-003</b>	<b>146.2158</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Site Preparation - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6492	6.2575	9.1933	0.0132		0.2831	0.2831		0.2619	0.2619	0.0000	1,268.0073	1,268.0073	0.3969		1,277.9306
<b>Total</b>	<b>0.6492</b>	<b>6.2575</b>	<b>9.1933</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2831</b>	<b>0.2831</b>	<b>0.0000</b>	<b>0.2619</b>	<b>0.2619</b>	<b>0.0000</b>	<b>1,268.0073</b>	<b>1,268.0073</b>	<b>0.3969</b>		<b>1,277.9306</b>

**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	lb/day										lb/day					
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
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
Worker	0.0510	0.0303	0.5116	1.4400e-003	0.1661	7.8000e-004	0.1668	0.0440	7.1000e-004	0.0448		145.1840	145.1840	3.0900e-003	3.2000e-003	146.2158
<b>Total</b>	<b>0.0510</b>	<b>0.0303</b>	<b>0.5116</b>	<b>1.4400e-003</b>	<b>0.1661</b>	<b>7.8000e-004</b>	<b>0.1668</b>	<b>0.0440</b>	<b>7.1000e-004</b>	<b>0.0448</b>		<b>145.1840</b>	<b>145.1840</b>	<b>3.0900e-003</b>	<b>3.2000e-003</b>	<b>146.2158</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Grading - 2024**

**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	lb/day										lb/day					
Fugitive Dust					9.7692	0.0000	9.7692	3.7148	0.0000	3.7148			0.0000			0.0000
Off-Road	1.6314	16.8707	7.3668	0.0242		0.6448	0.6448		0.5975	0.5975		2,298.8354	2,298.8354	0.7020		2,316.3856
<b>Total</b>	<b>1.6314</b>	<b>16.8707</b>	<b>7.3668</b>	<b>0.0242</b>	<b>9.7692</b>	<b>0.6448</b>	<b>10.4140</b>	<b>3.7148</b>	<b>0.5975</b>	<b>4.3123</b>		<b>2,298.8354</b>	<b>2,298.8354</b>	<b>0.7020</b>		<b>2,316.3856</b>

**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	lb/day										lb/day					
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
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
Worker	0.0706	0.0419	0.7083	1.9900e-003	0.2299	1.0700e-003	0.2310	0.0610	9.9000e-004	0.0620		201.0240	201.0240	4.2700e-003	4.4400e-003	202.4527
<b>Total</b>	<b>0.0706</b>	<b>0.0419</b>	<b>0.7083</b>	<b>1.9900e-003</b>	<b>0.2299</b>	<b>1.0700e-003</b>	<b>0.2310</b>	<b>0.0610</b>	<b>9.9000e-004</b>	<b>0.0620</b>		<b>201.0240</b>	<b>201.0240</b>	<b>4.2700e-003</b>	<b>4.4400e-003</b>	<b>202.4527</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Grading - 2024**

**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	lb/day										lb/day					
Fugitive Dust					3.8100	0.0000	3.8100	1.4488	0.0000	1.4488			0.0000			0.0000
Off-Road	1.6314	16.8707	7.3668	0.0242		0.6448	0.6448		0.5975	0.5975	0.0000	2,298.8354	2,298.8354	0.7020		2,316.3856
<b>Total</b>	<b>1.6314</b>	<b>16.8707</b>	<b>7.3668</b>	<b>0.0242</b>	<b>3.8100</b>	<b>0.6448</b>	<b>4.4547</b>	<b>1.4488</b>	<b>0.5975</b>	<b>2.0463</b>	<b>0.0000</b>	<b>2,298.8354</b>	<b>2,298.8354</b>	<b>0.7020</b>		<b>2,316.3856</b>

**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	lb/day										lb/day					
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
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
Worker	0.0706	0.0419	0.7083	1.9900e-003	0.2299	1.0700e-003	0.2310	0.0610	9.9000e-004	0.0620		201.0240	201.0240	4.2700e-003	4.4400e-003	202.4527
<b>Total</b>	<b>0.0706</b>	<b>0.0419</b>	<b>0.7083</b>	<b>1.9900e-003</b>	<b>0.2299</b>	<b>1.0700e-003</b>	<b>0.2310</b>	<b>0.0610</b>	<b>9.9000e-004</b>	<b>0.0620</b>		<b>201.0240</b>	<b>201.0240</b>	<b>4.2700e-003</b>	<b>4.4400e-003</b>	<b>202.4527</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Building Construction - 2024**

**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	lb/day										lb/day					
Off-Road	1.8705	17.0023	20.2428	0.0399		0.8368	0.8368		0.7726	0.7726		3,836.5625	3,836.5625	1.2145		3,866.9247
<b>Total</b>	<b>1.8705</b>	<b>17.0023</b>	<b>20.2428</b>	<b>0.0399</b>		<b>0.8368</b>	<b>0.8368</b>		<b>0.7726</b>	<b>0.7726</b>		<b>3,836.5625</b>	<b>3,836.5625</b>	<b>1.2145</b>		<b>3,866.9247</b>

**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	lb/day										lb/day					
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
Vendor	0.4261	13.0029	5.4086	0.0641	2.3169	0.0940	2.4108	0.6672	0.0899	0.7571		6,873.9645	6,873.9645	0.1767	1.0153	7,180.9415
Worker	3.8054	2.2581	38.1692	0.1072	12.3899	0.0579	12.4478	3.2857	0.0533	3.3390		10,832.9581	10,832.9581	0.2303	0.2390	10,909.9482
<b>Total</b>	<b>4.2315</b>	<b>15.2610</b>	<b>43.5779</b>	<b>0.1713</b>	<b>14.7067</b>	<b>0.1519</b>	<b>14.8586</b>	<b>3.9529</b>	<b>0.1432</b>	<b>4.0960</b>		<b>17,706.9226</b>	<b>17,706.9226</b>	<b>0.4070</b>	<b>1.2543</b>	<b>18,090.8897</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Building Construction - 2024**

**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	lb/day										lb/day					
Off-Road	1.8705	17.0023	20.2428	0.0399		0.8368	0.8368		0.7726	0.7726	0.0000	3,836.5625	3,836.5625	1.2145		3,866.9247
<b>Total</b>	<b>1.8705</b>	<b>17.0023</b>	<b>20.2428</b>	<b>0.0399</b>		<b>0.8368</b>	<b>0.8368</b>		<b>0.7726</b>	<b>0.7726</b>	<b>0.0000</b>	<b>3,836.5625</b>	<b>3,836.5625</b>	<b>1.2145</b>		<b>3,866.9247</b>

**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	lb/day										lb/day					
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
Vendor	0.4261	13.0029	5.4086	0.0641	2.3169	0.0940	2.4108	0.6672	0.0899	0.7571		6,873.9645	6,873.9645	0.1767	1.0153	7,180.9415
Worker	3.8054	2.2581	38.1692	0.1072	12.3899	0.0579	12.4478	3.2857	0.0533	3.3390		10,832.9581	10,832.9581	0.2303	0.2390	10,909.9482
<b>Total</b>	<b>4.2315</b>	<b>15.2610</b>	<b>43.5779</b>	<b>0.1713</b>	<b>14.7067</b>	<b>0.1519</b>	<b>14.8586</b>	<b>3.9529</b>	<b>0.1432</b>	<b>4.0960</b>		<b>17,706.9226</b>	<b>17,706.9226</b>	<b>0.4070</b>	<b>1.2543</b>	<b>18,090.8897</b>



Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
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
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

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
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
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

**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	lb/day										lb/day					
Other Non-Asphalt Surfaces	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - Natural Gas**

Mitigated

	Natural Gas 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	lb/day										lb/day					
Other Non-Asphalt Surfaces	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**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	lb/day										lb/day					
Mitigated	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
Unmitigated	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Architectural Coating	0.4398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>		<b>0.0124</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Architectural Coating	0.4398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>		<b>0.0124</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

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**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
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**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

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Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Lockhart 2 Solar PV Project  
San Bernardino-Mojave Desert County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	53.00	Acre	53.00	2,308,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Statewide Average				
<b>CO2 Intensity (lb/MWhr)</b>	453.21	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

- Project Characteristics -
- Land Use -
- Construction Phase - Construction scheduled per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - Per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - per client info.
- Demolition - Two structures as measured on google earth
- Grading - Grading is the same as site acres.
- Consumer Products - Per proposal, operational emissions are not being calculated
- Area Coating - Per proposal, operational emissions are not being calculated
- Landscape Equipment - Per proposal, operational emissions are not being calculated

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Energy Use - Per proposal, operational emissions are not being calculated

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	66.00
tblConstructionPhase	NumDays	70.00	5.00
tblConstructionPhase	NumDays	110.00	15.00
tblConstructionPhase	NumDays	40.00	5.00
tblConstructionPhase	PhaseEndDate	2/2/2029	5/6/2024
tblConstructionPhase	PhaseEndDate	4/5/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	11/1/2024	2/2/2024
tblConstructionPhase	PhaseEndDate	5/31/2024	1/12/2024
tblConstructionPhase	PhaseStartDate	11/2/2024	2/5/2024
tblConstructionPhase	PhaseStartDate	6/1/2024	1/15/2024
tblConstructionPhase	PhaseStartDate	4/6/2024	1/8/2024
tblGrading	AcresOfGrading	22.50	53.00
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers



Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

**2.0 Emissions Summary**

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Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Area	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
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
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
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0124</b>

**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	lb/day										lb/day					
Area	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
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
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
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0124</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	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
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	Demolition	Demolition	1/1/2024	1/5/2024	5	5	
2	Site Preparation	Site Preparation	1/8/2024	1/12/2024	5	5	
3	Grading	Grading	1/15/2024	2/2/2024	5	15	
4	Building Construction	Building Construction	2/5/2024	5/6/2024	5	66	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 53**

**Acres of Paving: 53**

**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
Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Grading	Plate Compactors	2	8.00	8	0.43
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Trenchers	1	8.00	78	0.50

**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
Demolition	3	8.00	0.00	16.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	970.00	378.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.6977	0.0000	0.6977	0.1057	0.0000	0.1057			0.0000			0.0000
Off-Road	1.4636	14.7199	6.5131	0.0178		0.6596	0.6596		0.6082	0.6082		1,714.9023	1,714.9023	0.5415		1,728.4390
<b>Total</b>	<b>1.4636</b>	<b>14.7199</b>	<b>6.5131</b>	<b>0.0178</b>	<b>0.6977</b>	<b>0.6596</b>	<b>1.3572</b>	<b>0.1057</b>	<b>0.6082</b>	<b>0.7139</b>		<b>1,714.9023</b>	<b>1,714.9023</b>	<b>0.5415</b>		<b>1,728.4390</b>

**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	lb/day										lb/day					
Hauling	7.0600e-003	0.3722	0.1094	1.7700e-003	0.0560	3.6600e-003	0.0597	0.0154	3.5000e-003	0.0189		192.7852	192.7852	8.0900e-003	0.0306	202.0931
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
Worker	0.0306	0.0196	0.2577	8.0000e-004	0.1022	4.8000e-004	0.1027	0.0271	4.4000e-004	0.0275		80.9469	80.9469	1.8900e-003	2.0300e-003	81.6000
<b>Total</b>	<b>0.0377</b>	<b>0.3918</b>	<b>0.3671</b>	<b>2.5700e-003</b>	<b>0.1582</b>	<b>4.1400e-003</b>	<b>0.1624</b>	<b>0.0425</b>	<b>3.9400e-003</b>	<b>0.0464</b>		<b>273.7321</b>	<b>273.7321</b>	<b>9.9800e-003</b>	<b>0.0326</b>	<b>283.6932</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.2721	0.0000	0.2721	0.0412	0.0000	0.0412			0.0000			0.0000
Off-Road	1.4636	14.7199	6.5131	0.0178		0.6596	0.6596		0.6082	0.6082	0.0000	1,714.9023	1,714.9023	0.5415		1,728.4390
<b>Total</b>	<b>1.4636</b>	<b>14.7199</b>	<b>6.5131</b>	<b>0.0178</b>	<b>0.2721</b>	<b>0.6596</b>	<b>0.9317</b>	<b>0.0412</b>	<b>0.6082</b>	<b>0.6494</b>	<b>0.0000</b>	<b>1,714.9023</b>	<b>1,714.9023</b>	<b>0.5415</b>		<b>1,728.4390</b>

**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	lb/day										lb/day					
Hauling	7.0600e-003	0.3722	0.1094	1.7700e-003	0.0560	3.6600e-003	0.0597	0.0154	3.5000e-003	0.0189		192.7852	192.7852	8.0900e-003	0.0306	202.0931
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
Worker	0.0306	0.0196	0.2577	8.0000e-004	0.1022	4.8000e-004	0.1027	0.0271	4.4000e-004	0.0275		80.9469	80.9469	1.8900e-003	2.0300e-003	81.6000
<b>Total</b>	<b>0.0377</b>	<b>0.3918</b>	<b>0.3671</b>	<b>2.5700e-003</b>	<b>0.1582</b>	<b>4.1400e-003</b>	<b>0.1624</b>	<b>0.0425</b>	<b>3.9400e-003</b>	<b>0.0464</b>		<b>273.7321</b>	<b>273.7321</b>	<b>9.9800e-003</b>	<b>0.0326</b>	<b>283.6932</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Site Preparation - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6492	6.2575	9.1933	0.0132		0.2831	0.2831		0.2619	0.2619		1,268.0073	1,268.0073	0.3969		1,277.9306
<b>Total</b>	<b>0.6492</b>	<b>6.2575</b>	<b>9.1933</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2831</b>	<b>0.2831</b>	<b>0.0000</b>	<b>0.2619</b>	<b>0.2619</b>		<b>1,268.0073</b>	<b>1,268.0073</b>	<b>0.3969</b>		<b>1,277.9306</b>

**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	lb/day										lb/day					
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
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
Worker	0.0498	0.0318	0.4188	1.3000e-003	0.1661	7.8000e-004	0.1668	0.0440	7.1000e-004	0.0448		131.5388	131.5388	3.0600e-003	3.3000e-003	132.6000
<b>Total</b>	<b>0.0498</b>	<b>0.0318</b>	<b>0.4188</b>	<b>1.3000e-003</b>	<b>0.1661</b>	<b>7.8000e-004</b>	<b>0.1668</b>	<b>0.0440</b>	<b>7.1000e-004</b>	<b>0.0448</b>		<b>131.5388</b>	<b>131.5388</b>	<b>3.0600e-003</b>	<b>3.3000e-003</b>	<b>132.6000</b>



Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Site Preparation - 2024**

**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6492	6.2575	9.1933	0.0132		0.2831	0.2831		0.2619	0.2619	0.0000	1,268.007 3	1,268.007 3	0.3969		1,277.930 6
<b>Total</b>	<b>0.6492</b>	<b>6.2575</b>	<b>9.1933</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2831</b>	<b>0.2831</b>	<b>0.0000</b>	<b>0.2619</b>	<b>0.2619</b>	<b>0.0000</b>	<b>1,268.007 3</b>	<b>1,268.007 3</b>	<b>0.3969</b>		<b>1,277.930 6</b>

**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	lb/day										lb/day					
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
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
Worker	0.0498	0.0318	0.4188	1.3000e-003	0.1661	7.8000e-004	0.1668	0.0440	7.1000e-004	0.0448		131.5388	131.5388	3.0600e-003	3.3000e-003	132.6000
<b>Total</b>	<b>0.0498</b>	<b>0.0318</b>	<b>0.4188</b>	<b>1.3000e-003</b>	<b>0.1661</b>	<b>7.8000e-004</b>	<b>0.1668</b>	<b>0.0440</b>	<b>7.1000e-004</b>	<b>0.0448</b>		<b>131.5388</b>	<b>131.5388</b>	<b>3.0600e-003</b>	<b>3.3000e-003</b>	<b>132.6000</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Grading - 2024**

**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	lb/day										lb/day					
Fugitive Dust					9.7692	0.0000	9.7692	3.7148	0.0000	3.7148			0.0000			0.0000
Off-Road	1.6314	16.8707	7.3668	0.0242		0.6448	0.6448		0.5975	0.5975		2,298.8354	2,298.8354	0.7020		2,316.3856
<b>Total</b>	<b>1.6314</b>	<b>16.8707</b>	<b>7.3668</b>	<b>0.0242</b>	<b>9.7692</b>	<b>0.6448</b>	<b>10.4140</b>	<b>3.7148</b>	<b>0.5975</b>	<b>4.3123</b>		<b>2,298.8354</b>	<b>2,298.8354</b>	<b>0.7020</b>		<b>2,316.3856</b>

**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	lb/day										lb/day					
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
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
Worker	0.0689	0.0440	0.5799	1.8000e-003	0.2299	1.0700e-003	0.2310	0.0610	9.9000e-004	0.0620		182.1306	182.1306	4.2400e-003	4.5800e-003	183.6001
<b>Total</b>	<b>0.0689</b>	<b>0.0440</b>	<b>0.5799</b>	<b>1.8000e-003</b>	<b>0.2299</b>	<b>1.0700e-003</b>	<b>0.2310</b>	<b>0.0610</b>	<b>9.9000e-004</b>	<b>0.0620</b>		<b>182.1306</b>	<b>182.1306</b>	<b>4.2400e-003</b>	<b>4.5800e-003</b>	<b>183.6001</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Grading - 2024**

**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	lb/day										lb/day					
Fugitive Dust					3.8100	0.0000	3.8100	1.4488	0.0000	1.4488			0.0000			0.0000
Off-Road	1.6314	16.8707	7.3668	0.0242		0.6448	0.6448		0.5975	0.5975	0.0000	2,298.8354	2,298.8354	0.7020		2,316.3856
<b>Total</b>	<b>1.6314</b>	<b>16.8707</b>	<b>7.3668</b>	<b>0.0242</b>	<b>3.8100</b>	<b>0.6448</b>	<b>4.4547</b>	<b>1.4488</b>	<b>0.5975</b>	<b>2.0463</b>	<b>0.0000</b>	<b>2,298.8354</b>	<b>2,298.8354</b>	<b>0.7020</b>		<b>2,316.3856</b>

**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	lb/day										lb/day					
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
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
Worker	0.0689	0.0440	0.5799	1.8000e-003	0.2299	1.0700e-003	0.2310	0.0610	9.9000e-004	0.0620		182.1306	182.1306	4.2400e-003	4.5800e-003	183.6001
<b>Total</b>	<b>0.0689</b>	<b>0.0440</b>	<b>0.5799</b>	<b>1.8000e-003</b>	<b>0.2299</b>	<b>1.0700e-003</b>	<b>0.2310</b>	<b>0.0610</b>	<b>9.9000e-004</b>	<b>0.0620</b>		<b>182.1306</b>	<b>182.1306</b>	<b>4.2400e-003</b>	<b>4.5800e-003</b>	<b>183.6001</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Building Construction - 2024**

**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	lb/day										lb/day					
Off-Road	1.8705	17.0023	20.2428	0.0399		0.8368	0.8368		0.7726	0.7726		3,836.5625	3,836.5625	1.2145		3,866.9247
<b>Total</b>	<b>1.8705</b>	<b>17.0023</b>	<b>20.2428</b>	<b>0.0399</b>		<b>0.8368</b>	<b>0.8368</b>		<b>0.7726</b>	<b>0.7726</b>		<b>3,836.5625</b>	<b>3,836.5625</b>	<b>1.2145</b>		<b>3,866.9247</b>

**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	lb/day										lb/day					
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
Vendor	0.3951	13.7363	5.5792	0.0643	2.3169	0.0943	2.4112	0.6672	0.0903	0.7574		6,891.4513	6,891.4513	0.1752	1.0185	7,199.3544
Worker	3.7118	2.3728	31.2492	0.0971	12.3899	0.0579	12.4478	3.2857	0.0533	3.3390		9,814.8156	9,814.8156	0.2287	0.2466	9,894.0031
<b>Total</b>	<b>4.1069</b>	<b>16.1091</b>	<b>36.8283</b>	<b>0.1614</b>	<b>14.7067</b>	<b>0.1522</b>	<b>14.8590</b>	<b>3.9529</b>	<b>0.1435</b>	<b>4.0964</b>		<b>16,706.2669</b>	<b>16,706.2669</b>	<b>0.4039</b>	<b>1.2651</b>	<b>17,093.3574</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Building Construction - 2024**

**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	lb/day										lb/day					
Off-Road	1.8705	17.0023	20.2428	0.0399		0.8368	0.8368		0.7726	0.7726	0.0000	3,836.5625	3,836.5625	1.2145		3,866.9247
<b>Total</b>	<b>1.8705</b>	<b>17.0023</b>	<b>20.2428</b>	<b>0.0399</b>		<b>0.8368</b>	<b>0.8368</b>		<b>0.7726</b>	<b>0.7726</b>	<b>0.0000</b>	<b>3,836.5625</b>	<b>3,836.5625</b>	<b>1.2145</b>		<b>3,866.9247</b>

**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	lb/day										lb/day					
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
Vendor	0.3951	13.7363	5.5792	0.0643	2.3169	0.0943	2.4112	0.6672	0.0903	0.7574		6,891.4513	6,891.4513	0.1752	1.0185	7,199.3544
Worker	3.7118	2.3728	31.2492	0.0971	12.3899	0.0579	12.4478	3.2857	0.0533	3.3390		9,814.8156	9,814.8156	0.2287	0.2466	9,894.0031
<b>Total</b>	<b>4.1069</b>	<b>16.1091</b>	<b>36.8283</b>	<b>0.1614</b>	<b>14.7067</b>	<b>0.1522</b>	<b>14.8590</b>	<b>3.9529</b>	<b>0.1435</b>	<b>4.0964</b>		<b>16,706.2669</b>	<b>16,706.2669</b>	<b>0.4039</b>	<b>1.2651</b>	<b>17,093.3574</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
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
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

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day											lb/day				
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
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

**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	lb/day											lb/day				
Other Non-Asphalt Surfaces	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day											lb/day				
Other Non-Asphalt Surfaces	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**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	lb/day											lb/day				
Mitigated	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
Unmitigated	1.2580	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124



Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Architectural Coating	0.4398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>		<b>0.0124</b>

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	lb/day										lb/day					
Architectural Coating	0.4398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-004	5.0000e-005	5.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0116	0.0116	3.0000e-005		0.0124
<b>Total</b>	<b>1.2580</b>	<b>5.0000e-005</b>	<b>5.4000e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0116</b>	<b>0.0116</b>	<b>3.0000e-005</b>		<b>0.0124</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

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**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**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Lockhart 2 Solar PV Project  
San Bernardino-Mojave Desert County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	53.00	Acre	53.00	2,308,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Statewide Average				
<b>CO2 Intensity (lb/MWhr)</b>	453.21	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

- Project Characteristics -
- Land Use -
- Construction Phase - Construction scheduled per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - Per client info.
- Off-road Equipment - Per client info
- Off-road Equipment - per client info.
- Demolition - Two structures as measured on google earth
- Grading - Grading is the same as site acres.
- Consumer Products - Per proposal, operational emissions are not being calculated
- Area Coating - Per proposal, operational emissions are not being calculated
- Landscape Equipment - Per proposal, operational emissions are not being calculated

Lockhart 2 Solar PV Project - San Bernardino-Mojave Desert County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Energy Use - Per proposal, operational emissions are not being calculated

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	66.00
tblConstructionPhase	NumDays	70.00	5.00
tblConstructionPhase	NumDays	110.00	15.00
tblConstructionPhase	NumDays	40.00	5.00
tblConstructionPhase	PhaseEndDate	2/2/2029	5/6/2024
tblConstructionPhase	PhaseEndDate	4/5/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	11/1/2024	2/2/2024
tblConstructionPhase	PhaseEndDate	5/31/2024	1/12/2024
tblConstructionPhase	PhaseStartDate	11/2/2024	2/5/2024
tblConstructionPhase	PhaseStartDate	6/1/2024	1/15/2024
tblConstructionPhase	PhaseStartDate	4/6/2024	1/8/2024
tblGrading	AcresOfGrading	22.50	53.00
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2024	3-31-2024	0.9502	0.9502
2	4-1-2024	6-30-2024	0.4933	0.4933
		Highest	0.9502	0.9502

**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	0.2295	0.0000	4.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.5000e-004	9.5000e-004	0.0000	0.0000	1.0100e-003
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
<b>Total</b>	<b>0.2295</b>	<b>0.0000</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0100e-003</b>





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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.3 Vegetation**

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
<b>Total</b>	<b>0.0000</b>

**3.0 Construction Detail**

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2024	1/5/2024	5	5	
2	Site Preparation	Site Preparation	1/8/2024	1/12/2024	5	5	
3	Grading	Grading	1/15/2024	2/2/2024	5	15	
4	Building Construction	Building Construction	2/5/2024	5/6/2024	5	66	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 53**

**Acres of Paving: 53**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

OffRoad Equipment

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Dumpers/Tenders	2	8.00	16	0.38
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Plate Compactors	2	8.00	8	0.43
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Dumpers/Tenders	1	8.00	16	0.38
Building Construction	Trenchers	1	8.00	78	0.50

**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
Demolition	3	8.00	0.00	16.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	970.00	378.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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					1.7400e-003	0.0000	1.7400e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6600e-003	0.0368	0.0163	4.0000e-005		1.6500e-003	1.6500e-003		1.5200e-003	1.5200e-003	0.0000	3.8893	3.8893	1.2300e-003	0.0000	3.9200
<b>Total</b>	<b>3.6600e-003</b>	<b>0.0368</b>	<b>0.0163</b>	<b>4.0000e-005</b>	<b>1.7400e-003</b>	<b>1.6500e-003</b>	<b>3.3900e-003</b>	<b>2.6000e-004</b>	<b>1.5200e-003</b>	<b>1.7800e-003</b>	<b>0.0000</b>	<b>3.8893</b>	<b>3.8893</b>	<b>1.2300e-003</b>	<b>0.0000</b>	<b>3.9200</b>

**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	2.0000e-005	9.3000e-004	2.7000e-004	0.0000	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4368	0.4368	2.0000e-005	7.0000e-005	0.4579
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	7.0000e-005	5.0000e-005	6.8000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1872	0.1872	0.0000	0.0000	0.1888
<b>Total</b>	<b>9.0000e-005</b>	<b>9.8000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>3.9000e-004</b>	<b>1.0000e-005</b>	<b>4.0000e-004</b>	<b>1.1000e-004</b>	<b>1.0000e-005</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>0.6241</b>	<b>0.6241</b>	<b>2.0000e-005</b>	<b>7.0000e-005</b>	<b>0.6467</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Demolition - 2024**

**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					6.8000e-004	0.0000	6.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6600e-003	0.0368	0.0163	4.0000e-005		1.6500e-003	1.6500e-003		1.5200e-003	1.5200e-003	0.0000	3.8893	3.8893	1.2300e-003	0.0000	3.9200
<b>Total</b>	<b>3.6600e-003</b>	<b>0.0368</b>	<b>0.0163</b>	<b>4.0000e-005</b>	<b>6.8000e-004</b>	<b>1.6500e-003</b>	<b>2.3300e-003</b>	<b>1.0000e-004</b>	<b>1.5200e-003</b>	<b>1.6200e-003</b>	<b>0.0000</b>	<b>3.8893</b>	<b>3.8893</b>	<b>1.2300e-003</b>	<b>0.0000</b>	<b>3.9200</b>

**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	2.0000e-005	9.3000e-004	2.7000e-004	0.0000	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4368	0.4368	2.0000e-005	7.0000e-005	0.4579
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	7.0000e-005	5.0000e-005	6.8000e-004	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1872	0.1872	0.0000	0.0000	0.1888
<b>Total</b>	<b>9.0000e-005</b>	<b>9.8000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>3.9000e-004</b>	<b>1.0000e-005</b>	<b>4.0000e-004</b>	<b>1.1000e-004</b>	<b>1.0000e-005</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>0.6241</b>	<b>0.6241</b>	<b>2.0000e-005</b>	<b>7.0000e-005</b>	<b>0.6467</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Site Preparation - 2024**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0156	0.0230	3.0000e-005		7.1000e-004	7.1000e-004		6.5000e-004	6.5000e-004	0.0000	2.8758	2.8758	9.0000e-004	0.0000	2.8983
<b>Total</b>	<b>1.6200e-003</b>	<b>0.0156</b>	<b>0.0230</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>7.1000e-004</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>6.5000e-004</b>	<b>6.5000e-004</b>	<b>0.0000</b>	<b>2.8758</b>	<b>2.8758</b>	<b>9.0000e-004</b>	<b>0.0000</b>	<b>2.8983</b>

**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	1.1000e-004	8.0000e-005	1.1000e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3042	0.3042	1.0000e-005	1.0000e-005	0.3067
<b>Total</b>	<b>1.1000e-004</b>	<b>8.0000e-005</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>4.1000e-004</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>0.3042</b>	<b>0.3042</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.3067</b>

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**3.3 Site Preparation - 2024**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0156	0.0230	3.0000e-005		7.1000e-004	7.1000e-004		6.5000e-004	6.5000e-004	0.0000	2.8758	2.8758	9.0000e-004	0.0000	2.8983
<b>Total</b>	<b>1.6200e-003</b>	<b>0.0156</b>	<b>0.0230</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>7.1000e-004</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>6.5000e-004</b>	<b>6.5000e-004</b>	<b>0.0000</b>	<b>2.8758</b>	<b>2.8758</b>	<b>9.0000e-004</b>	<b>0.0000</b>	<b>2.8983</b>

**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	1.1000e-004	8.0000e-005	1.1000e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3042	0.3042	1.0000e-005	1.0000e-005	0.3067
<b>Total</b>	<b>1.1000e-004</b>	<b>8.0000e-005</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>4.1000e-004</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>0.3042</b>	<b>0.3042</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.3067</b>

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**3.4 Grading - 2024**

**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					0.0733	0.0000	0.0733	0.0279	0.0000	0.0279	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.1265	0.0553	1.8000e-004		4.8400e-003	4.8400e-003		4.4800e-003	4.4800e-003	0.0000	15.6410	15.6410	4.7800e-003	0.0000	15.7604
<b>Total</b>	<b>0.0122</b>	<b>0.1265</b>	<b>0.0553</b>	<b>1.8000e-004</b>	<b>0.0733</b>	<b>4.8400e-003</b>	<b>0.0781</b>	<b>0.0279</b>	<b>4.4800e-003</b>	<b>0.0323</b>	<b>0.0000</b>	<b>15.6410</b>	<b>15.6410</b>	<b>4.7800e-003</b>	<b>0.0000</b>	<b>15.7604</b>

**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	4.8000e-004	3.5000e-004	4.5600e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2638	1.2638	3.0000e-005	3.0000e-005	1.2741
<b>Total</b>	<b>4.8000e-004</b>	<b>3.5000e-004</b>	<b>4.5600e-003</b>	<b>1.0000e-005</b>	<b>1.6900e-003</b>	<b>1.0000e-005</b>	<b>1.7000e-003</b>	<b>4.5000e-004</b>	<b>1.0000e-005</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>1.2638</b>	<b>1.2638</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.2741</b>



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**3.4 Grading - 2024**

**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					0.0286	0.0000	0.0286	0.0109	0.0000	0.0109	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.1265	0.0553	1.8000e-004		4.8400e-003	4.8400e-003		4.4800e-003	4.4800e-003	0.0000	15.6410	15.6410	4.7800e-003	0.0000	15.7604
<b>Total</b>	<b>0.0122</b>	<b>0.1265</b>	<b>0.0553</b>	<b>1.8000e-004</b>	<b>0.0286</b>	<b>4.8400e-003</b>	<b>0.0334</b>	<b>0.0109</b>	<b>4.4800e-003</b>	<b>0.0154</b>	<b>0.0000</b>	<b>15.6410</b>	<b>15.6410</b>	<b>4.7800e-003</b>	<b>0.0000</b>	<b>15.7604</b>

**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	4.8000e-004	3.5000e-004	4.5600e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2638	1.2638	3.0000e-005	3.0000e-005	1.2741
<b>Total</b>	<b>4.8000e-004</b>	<b>3.5000e-004</b>	<b>4.5600e-003</b>	<b>1.0000e-005</b>	<b>1.6900e-003</b>	<b>1.0000e-005</b>	<b>1.7000e-003</b>	<b>4.5000e-004</b>	<b>1.0000e-005</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>1.2638</b>	<b>1.2638</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.2741</b>

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**3.5 Building Construction - 2024**

**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	0.0617	0.5611	0.6680	1.3200e-003		0.0276	0.0276		0.0255	0.0255	0.0000	114.8555	114.8555	0.0364	0.0000	115.7645
<b>Total</b>	<b>0.0617</b>	<b>0.5611</b>	<b>0.6680</b>	<b>1.3200e-003</b>		<b>0.0276</b>	<b>0.0276</b>		<b>0.0255</b>	<b>0.0255</b>	<b>0.0000</b>	<b>114.8555</b>	<b>114.8555</b>	<b>0.0364</b>	<b>0.0000</b>	<b>115.7645</b>

**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	0.0135	0.4512	0.1812	2.1200e-003	0.0753	3.1100e-003	0.0784	0.0217	2.9700e-003	0.0247	0.0000	206.0070	206.0070	5.2700e-003	0.0305	215.2124
Worker	0.1128	0.0821	1.0816	3.2700e-003	0.4011	1.9100e-003	0.4030	0.1065	1.7600e-003	0.1083	0.0000	299.6515	299.6515	6.9400e-003	7.6300e-003	302.0986
<b>Total</b>	<b>0.1264</b>	<b>0.5334</b>	<b>1.2628</b>	<b>5.3900e-003</b>	<b>0.4763</b>	<b>5.0200e-003</b>	<b>0.4814</b>	<b>0.1282</b>	<b>4.7300e-003</b>	<b>0.1330</b>	<b>0.0000</b>	<b>505.6585</b>	<b>505.6585</b>	<b>0.0122</b>	<b>0.0381</b>	<b>517.3110</b>

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**3.5 Building Construction - 2024**

**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	0.0617	0.5611	0.6680	1.3200e-003		0.0276	0.0276		0.0255	0.0255	0.0000	114.8554	114.8554	0.0364	0.0000	115.7644
<b>Total</b>	<b>0.0617</b>	<b>0.5611</b>	<b>0.6680</b>	<b>1.3200e-003</b>		<b>0.0276</b>	<b>0.0276</b>		<b>0.0255</b>	<b>0.0255</b>	<b>0.0000</b>	<b>114.8554</b>	<b>114.8554</b>	<b>0.0364</b>	<b>0.0000</b>	<b>115.7644</b>

**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	0.0135	0.4512	0.1812	2.1200e-003	0.0753	3.1100e-003	0.0784	0.0217	2.9700e-003	0.0247	0.0000	206.0070	206.0070	5.2700e-003	0.0305	215.2124
Worker	0.1128	0.0821	1.0816	3.2700e-003	0.4011	1.9100e-003	0.4030	0.1065	1.7600e-003	0.1083	0.0000	299.6515	299.6515	6.9400e-003	7.6300e-003	302.0986
<b>Total</b>	<b>0.1264</b>	<b>0.5334</b>	<b>1.2628</b>	<b>5.3900e-003</b>	<b>0.4763</b>	<b>5.0200e-003</b>	<b>0.4814</b>	<b>0.1282</b>	<b>4.7300e-003</b>	<b>0.1330</b>	<b>0.0000</b>	<b>505.6585</b>	<b>505.6585</b>	<b>0.0122</b>	<b>0.0381</b>	<b>517.3110</b>

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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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

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**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



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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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	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	0.2295	0.0000	4.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.5000e-004	9.5000e-004	0.0000	0.0000	1.0100e-003
Unmitigated	0.2295	0.0000	4.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.5000e-004	9.5000e-004	0.0000	0.0000	1.0100e-003

**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	0.0803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.5000e-004	9.5000e-004	0.0000	0.0000	1.0100e-003
<b>Total</b>	<b>0.2295</b>	<b>0.0000</b>	<b>4.9000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0100e-003</b>



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**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	0.0803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.5000e-004	9.5000e-004	0.0000	0.0000	1.0100e-003
<b>Total</b>	<b>0.2295</b>	<b>0.0000</b>	<b>4.9000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0100e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	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			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**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

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.0000	0.0000	0.0000	0.0000

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**11.1 Vegetation Land Change**

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Others	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>