

# **Air Quality and Greenhouse Gas Assessment**

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## **Vega SES Complex Solar Energy Storage Project**

County of Imperial, California

### **Prepared For:**

Apex Energy Solutions, LLC  
604 Sutter Street,  
Folsom, CA 95630

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**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

## **CONTENTS**

1.0	INTRODUCTION .....	1
1.1	Project Overview.....	1
1.2	Project Location .....	1
1.3	Project Site Access.....	1
1.4	Project Construction .....	2
2.0	AIR QUALITY .....	3
2.1	Air Quality Setting.....	3
2.1.1	Salton Sea Air Basin.....	3
2.1.2	Criteria Air Pollutants.....	4
2.1.3	Toxic Air Contaminants .....	7
2.1.4	Asbestos.....	8
2.1.5	Ambient Air Quality .....	8
2.1.6	Sensitive Receptors.....	10
2.2	Regulatory Framework.....	10
2.2.1	Federal .....	10
2.2.2	State.....	11
2.2.3	Local.....	12
2.3	Air Quality Emissions Impact Assessment.....	14
2.3.1	Thresholds of Significance .....	14
2.3.2	Methodology .....	15
2.3.3	Impact Analysis.....	16
3.0	GREENHOUSE GAS EMISSIONS .....	27
3.1	Greenhouse Gas Setting.....	27
3.1.1	Sources of Greenhouse Gas Emissions .....	29
3.2	Regulatory Framework.....	30
3.2.1	State.....	30
3.3	Greenhouse Gas Emissions Impact Assessment .....	31
3.3.1	Thresholds of Significance .....	31
3.3.2	Methodology .....	33
3.3.3	Impact Analysis.....	33
4.0	REFERENCES.....	39

## **LIST OF TABLES**

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects.....	5
Table 2-2. Summary of Ambient Air Quality Data.....	9
Table 2-3. Attainment Status of Criteria Pollutants in the Imperial County Portion of the SSAB .....	9
Table 2-4. ICAPCD Significance Thresholds – Pounds per Day.....	14
Table 2-5. Unmitigated Project Construction-Generated Emissions .....	17
Table 2-6. Mitigated Project Construction-Generated Emissions.....	20
Table 2-7. Operational-Related Emissions (Regional Significance Analysis) .....	21
Table 2-8. Proposed Project Displaced Criteria Pollutant Emissions (Tons) .....	23
Table 3-1. Greenhouse Gases .....	29
Table 3-2. Construction-Related Greenhouse Gas Emissions.....	34
Table 3-3. Operational-Related Greenhouse Gas Emissions.....	35
Table 3-4. Life-Cycle Greenhouse Gas Emissions for Various Types of Energy Generators .....	36
Table 3-5. Proposed Project Displaced GHG Emissions (Metric Tons).....	37

## **LIST OF ATTACHMENTS**

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emission Displacement

## **LIST OF ACRONYMS AND ABBREVIATIONS**

°F	Degrees Fahrenheit
µg/m <sup>3</sup>	Micrograms per cubic meter; ppm = parts per million
1992 CO Plan	1992 Federal Attainment Plan for Carbon Monoxide
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH <sub>4</sub>	Methane
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
County	Imperial County
CUP	Conditional Use Permit
DPM	Diesel particulate matter
EO	Executive Order

## **LIST OF ACRONYMS AND ABBREVIATIONS**

GHG	Greenhouse gas
GWP	Global warming potential
HSAT	Horizontal Single-Axis Tracker
ICAPCD	Imperial County Air Pollution Control District
IPCC	Intergovernmental Panel on Climate Change
MDAQMD	Mojave Desert Air Quality Management District
MWs	Megawatts
MWAC	Megawatt Alternating Current
N <sub>2</sub> O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitric oxides
O <sub>3</sub>	Ozone
PM	Particulate matter
PM <sub>10</sub>	Coarse particulate matter
PM <sub>2.5</sub>	Fine particulate matter
ppb	Parts per billion
Project	Vega SES Complex Solar Energy Storage Project
PV	Photovoltaic
ROGs	Reactive organic gases
SB	Senate Bill
SCAQMD	South Coast Air Quality Management
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur dioxide
SO <sub>x</sub>	Sulfur oxides
SR	State Route
SRA	Source receptor area
SSAB	Salton Sea Air Basin
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency

## **1.0 INTRODUCTION**

This report documents the results of an assessment of both air quality and greenhouse gas (GHG) emissions completed for the Vega SES Complex Solar Energy Storage Project (Project), which includes the construction and operation of an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the County of Imperial, California. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations promulgated by the Imperial County Air Pollution Control District (ICAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations.

### **1.1 Project Overview**

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only comprising 230 acres, and Vega 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 and 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

### **1.2 Project Location**

The total combined Project site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

### **1.3 Project Site Access**

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, all vehicle travel to the Vega 5 Project Site would occur on paved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

## 1.4 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step-up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on-site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on-site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

## **2.0 AIR QUALITY**

### **2.1 Air Quality Setting**

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Salton Sea Air Basin (SSAB), which encompasses the Project Site, pursuant to the regulatory authority of the ICAPCD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

#### **2.1.1 Salton Sea Air Basin**

The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. Imperial County, which extends over 4,482 square miles in the southeastern corner of California, lies in the SSAB, which includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The province is characterized by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. The elevation in Imperial County ranges from about 230 feet below sea level in the Salton Sea to more than 2,800 feet on the mountain summits to the east.

#### **Temperature and Precipitation**

The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (° F) down to a winter morning minimum of 38° F. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences rainfall on an average of only four times per year (>0.10 inches in 24 hours). The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year (ICAPCD 2010).

#### **Wind**

Winds in the area are driven by a complex pattern of local, regional and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer,

intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the limited air pollution controls on sources in the Mexicali, Mexico area. Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. The Imperial County experiences unhealthy air quality from photochemical smog and from dust due to extensive surface disturbance and the very arid climate (ICAPCD 2010).

## **Inversion**

The entire county is affected by inversion layers, where warm air overlays cooler air. Inversion layers trap pollutants close to the ground. In the winter, these pollutant-trapping, ground-based inversions are formed during windless, clear-sky conditions, as cold air collects in low-lying areas such as valleys and canyons. Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to be more easily dispersed (ICAPCD 2010).

### **2.1.2 Criteria Air Pollutants**

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone ( $O_3$ ), coarse particulate matter ( $PM_{10}$ ), and fine particulate matter ( $PM_{2.5}$ ) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide ( $NO_2$ ), and sulfur dioxide ( $SO_2$ ) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.



**Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects**

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO <sub>2</sub>	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O <sub>3</sub>	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N <sub>2</sub> O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM <sub>10</sub> & PM <sub>2.5</sub>	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO <sub>2</sub>	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

## Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SSAB are in compliance with the state and federal one- and eight-hour standards.

## Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO<sub>x</sub>). Motor vehicle emissions are the main source of NO<sub>x</sub> in urban areas. NO<sub>x</sub> is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO<sub>x</sub> increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and

influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of  $\text{NO}_x$ , such as  $\text{NO}$  and  $\text{NO}_2$ , attribute to the formation of  $\text{O}_3$  and  $\text{PM}_{2.5}$ . Epidemiological studies have also shown associations between  $\text{NO}_2$  concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

## Ozone

$\text{O}_3$  is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROGs and  $\text{NO}_x$  undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust.  $\text{NO}_x$  forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level  $\text{O}_3$  to form. Ground-level  $\text{O}_3$  is the primary constituent of smog. Because  $\text{O}_3$  formation occurs over extended periods of time, both  $\text{O}_3$  and its precursors are transported by wind and high  $\text{O}_3$  concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when  $\text{O}_3$  levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level  $\text{O}_3$  exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

## Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size ( $\text{PM}_{10}$ ) and small than or equal to 2.5 microns in diameter ( $\text{PM}_{2.5}$ ). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles.  $\text{PM}_{10}$  is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel.  $\text{PM}_{10}$  generally settles out of the atmosphere rapidly and is not readily transported over large distances.  $\text{PM}_{2.5}$  is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including  $\text{NO}_x$ , sulfur oxides ( $\text{SO}_x$ ) and VOCs.  $\text{PM}_{2.5}$  can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$  levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ . People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ . Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

### **2.1.3 Toxic Air Contaminants**

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

#### **Diesel Exhaust**

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

#### **Total Organic Gases**

Total organic gases (TOG) emissions are compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Specifically, TOG emissions include all organic gas compounds emitted to the atmosphere, including the low reactivity compounds (methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). TOG emissions also include low volatility or "low vapor pressure" organic compounds (e.g., some

petroleum distillate mixtures). TOG includes all organic compounds that can become airborne (through evaporation, sublimation, as aerosols, etc.), excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

Various subsets of TOG cause headaches, dizziness, upper respiratory tract irritation, nausea, and cancer. Vehicular traffic traveling on area roadways, such as SR 98, are sources of TOG.

#### **2.1.4 Asbestos**

The term "asbestos" describes naturally occurring fibrous minerals found in certain types of rock formations. It is a mineral compound of silicon, oxygen, hydrogen, and various metal cations. When mined and processed, asbestos is typically separated into very thin fibers. When these fibers are present in the air, they are normally invisible to the naked eye. Once airborne, asbestos fibers can cause serious health problems. If inhaled, asbestos fibers can impair normal lung functions, and increase the risk of developing lung cancer, mesothelioma, or asbestosis.

Naturally-occurring asbestos, which was identified as a TAC in 1986 by CARB, is located in many parts of California and is commonly associated with ultramafic rock. The Project Site is not located in an area of known or suspected naturally-occurring asbestos (DOC 2000).

#### **2.1.5 Ambient Air Quality**

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are the pollutant species most potently affecting the Project region. As described in detail below, the Project region is designated as a nonattainment area for the federal O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub> (CARB 2019). The Niland-English Road air quality monitoring station (7711 English Road, Niland), located approximately 7.27 miles west of the Project Site, monitors ambient concentrations of O<sub>3</sub> and PM<sub>10</sub>. The Brawley-Main Street #2 air quality monitoring station (220 Main Street, Brawley), located 17.8 miles southwest of the Project Site, monitors ambient concentrations of PM<sub>2.5</sub>. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> from the Niland-English Road and Brawley-Main Street #2 monitoring stations for each year that the monitoring data is provided. O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are the pollutant species most potently affecting the Project region.

<b>Table 2-2. Summary of Ambient Air Quality Data</b>			
<b>Pollutant Standards</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>O<sub>3</sub>- Niland-English Road</b>			
Max 1-hour concentration (ppm)	0.060	0.054	0.065
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.046 / 0.045	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
<b>PM<sub>10</sub>- Niland-English Road</b>			
Max 24-hour concentration (µg/m <sup>3</sup> ) (state/federal)	156.3 / 155.7	241.3 / 239.8	218.2 / 211.2
Number of days above 24-hour standard (state/federal)	49.3 / 1.0	68.9 / 1.0	86.0 / 4.0
<b>PM<sub>2.5</sub>- Brawley-Main Street</b>			
Max 24-hour concentration (µg/m <sup>3</sup> ) (state/federal)	28.9 / 28.9	23.7 / 23.7	24.4 / 24.4
Number of days above federal 24-hour standard	0	0	*

Source: CARB 2022

µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million

\* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O<sub>3</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the portion of the SSAB encompassing the Project Site is included in Table 2-3.

<b>Table 2-3. Attainment Status of Criteria Pollutants in the Imperial County Portion of the SSAB</b>		
<b>Pollutant</b>	<b>State Designation</b>	<b>Federal Designation</b>
O <sub>3</sub>	Nonattainment	Nonattainment
PM <sub>10</sub>	Nonattainment	Nonattainment
PM <sub>2.5</sub>	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO <sub>2</sub>	Attainment	Unclassified/Attainment
SO <sub>2</sub>	Attainment	Unclassified/Attainment

Source: CARB 2019

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub> (CARB 2019).

### **2.1.6 Sensitive Receptors**

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

## **2.2 Regulatory Framework**

### **2.2.1 Federal**

#### **Clean Air Act**

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO<sub>2</sub>) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO<sub>2</sub>.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SSAB for the criteria pollutants.

## **2.2.2 State**

### **California Clean Air Act**

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

### **California State Implementation Plan**

The CCAA (and its subsequent amendments) requires the state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

For 8-Hour O<sub>3</sub>, the ICAPCD adopted the 2017 8-hour Ozone State Implementation Plan in October 2018. The plan includes control measures which are an integral part of how the ICAPCD currently controls the ROG and NO<sub>x</sub> emissions within the O<sub>3</sub> nonattainment areas. The overall strategy includes programs and control measures which represent the implementation of Reasonable Available Control Technology (40 CFR 51.912) and the assurance that stationary sources maintain a net decrease in emissions.

For PM<sub>10</sub>, the ICAPCD adopted the PM<sub>10</sub> State Implementation Plan in 2018, which maintained previously adopted fugitive dust control measures (Regulation VIII). The USEPA had previously approved Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP in 2013.

For PM<sub>2.5</sub>, the ICAPCD adopted the PM<sub>2.5</sub> SIP in April 2018. This SIP concluded that the majority of the PM<sub>2.5</sub> emissions resulted from transport in nearby Mexico. Specifically, the SIP demonstrates attainment of the 2006 PM<sub>2.5</sub> NAAQS "but for" transport of international emissions from Mexicali, Mexico. In accordance

with the CCAA, the PM<sub>2.5</sub> SIP satisfies the attainment demonstration requirement satisfying the provisions of the CCAA.

The ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, County governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force (AQTF) has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The AQTF membership includes representatives from Federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

### **Tanner Air Toxics Act & Air Toxics “Hot Spots” Information and Assessment Act**

CARB’s Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California’s program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state’s mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics “Hot Spots” Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the “Hot Spots” Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

### **2.2.3 Local**

#### **Imperial County Air Pollution Control District**

The ICAPCD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the SSAB. Furthermore, ICAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other ICAPCD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.



To achieve and maintain ambient air quality standards, the ICAPCD has adopted various rules and regulations for the control of airborne pollutants. The ICAPCD Rules and Regulations that are applicable to the proposed project include, but are not limited to, ICAPCD Rule 801 requirements for construction activities. The purpose of this rule is to reduce the amount of PM<sub>10</sub> entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM<sub>10</sub> emissions. In addition, the project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules). These measures include the following (ICAPCD 2017):

- All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas of 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

In addition, there are other ICAPCD rules and regulations, not detailed here, which may apply to the proposed Project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

## 2.3 Air Quality Emissions Impact Assessment

### 2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

- 1) Conflict with or obstruct implementation of any applicable air quality plan.
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- 3) Expose sensitive receptors to substantial pollutant concentrations.
- 4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

#### ICAPCD Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (ICAPCD) may be relied upon to make the above determinations. The ICAPCD has identified significance thresholds for use in evaluating project impacts under CEQA. Accordingly, the ICAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Significance thresholds for evaluation construction and operational air quality impacts are listed in Table 2-4.

Table 2-4. ICAPCD Significance Thresholds – Pounds per Day			
Criteria Pollutant and Precursors	Construction Activities	Operations	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	
		Tier I Threshold	Tier II Threshold
ROG	75	<137	>137
NO <sub>x</sub>	100	<137	>137
PM <sub>10</sub>	150	<150	>150
PM <sub>2.5</sub>	N/A	<550	>550
CO	550	<550	>550
SO <sub>2</sub>	N/A	<150	>150

Source: ICAPCD 2017

Projects that are predicted to exceed Tier I thresholds require implementation of applicable ICAPCD standard mitigation measures to be considered less than significant. Projects exceeding Tier II thresholds are required to implement applicable ICAPCD standard mitigation measures, as well as applicable

discretionary mitigation measures. Projects that exceed the Tier II thresholds after implementation of standard and discretionary mitigation measures would be considered to have a potentially significant impact to human health and welfare.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

### **2.3.2 Methodology**

Air quality impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Impact Study prepared for the Project (KOA 2021a & 2021b), the number of on-site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on-site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Construction workers would access the Project Area from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, vehicle travel to the Vega 5 Project Site would not occur on any unpaved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

Operational air pollutant emissions account for a conservative estimate of two worker trips per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

### **2.3.3 Impact Analysis**

#### **Project Construction-Generated Criteria Air Quality Emissions**

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to ICAPCD Regulation VIII which, as previously described, requires taking reasonable precautions to reduce the amount of PM<sub>10</sub> entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM<sub>10</sub> emissions. In addition, the Project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules).

Emissions associated with Project off-road equipment, worker commute trips, and ground disturbance were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including types of construction equipment used and Project duration used in this analysis.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 2-5. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the ICAPCD thresholds of significance.

**Table 2-5. Unmitigated Project Construction-Generated Emissions**

Construction Year	Pollutant (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	1,210.25	122.54
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	11.51	5.14
<i>ICAPCD Significance Threshold</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>N/A</i>	<i>150</i>	<i>N/A</i>
<b>Exceed ICAPCD Threshold?</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Pounds per day taken from the season (summer or winter) with the highest output.

As shown in Table 2-5, emissions of PM<sub>10</sub> would exceed the ICAPCD significance threshold on the peak day(s) of construction for Vega 2 and 3. The predominant source of Project PM<sub>10</sub> emissions is workers commuting to and from the Project Site on unpaved roads. Commute vehicles traveling over the exposed soils of unpaved roads generates substantial amounts of fugitive PM<sub>10</sub> emissions. The access route on McDonald Road leading to the Vega 2 and 3 Project Site are paved; however, there are approximately 1.65 miles of unpaved roadway that would be used by commuting workers and vendors, specifically Wiest Road and Flowing Wells Road. It is noted that the access route leading to Vega 5 has no unpaved roads. Therefore, mitigation measure AQ-1 is required in order to reduce PM<sub>10</sub> emissions to levels below the significance threshold. Mitigation measure AQ-1 would require the use of soil stabilizers on the 1.65 miles of unpaved roadway used for construction worker access to the Project Site. Construction activities associated with Vega 5 would not exceed ICAPCD significance threshold for PM<sub>10</sub> emissions; however, mitigation measure AQ-1 is still imposed on Vega 5 construction to reduce the nuisance caused by fugitive dust.

The following mitigation is recommended:

#### **AQ-1: Project Construction Dust Suppression**

During construction activities the construction contractor shall employ the following PM<sub>10</sub> reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:
  - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the Vega 2 and 3 Project Site. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant.

2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.
3. Pursuant to the Imperial County Air Pollution Control District, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the Imperial County Air Pollution Control District CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. Imperial County Air Pollution Control District will verify implementation and compliance with these measures as part of the grading permit review/approval process.

**Imperial County Air Pollution Control District Standard Measures for Fugitive Dust (PM<sub>10</sub>) Control**

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
- All on-site and offsite unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be

limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

#### **Imperial County Air Pollution Control District “Discretionary” Measures for Fugitive Dust (PM<sub>10</sub>) Control**

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

#### **Standard Mitigation Measures for Construction Combustion Equipment**

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

#### **Enhanced Mitigation Measures for Construction Equipment**

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, Imperial County Air Pollution Control District recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Table 2-6 shows the results of construction emissions with implementation of mitigation measures AQ-1.

**Table 2-6. Mitigated Project Construction-Generated Emissions**

Construction Year	Pollutant (pounds per day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	115.51	13.52
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	5.89	2.91
<i>ICAPCD Significance Threshold</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>N/A</i>	<i>150</i>	<i>N/A</i>
<b>Exceed ICAPCD Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Pounds per day taken from the season (summer or winter) with the highest output. PM reduction values associated with the implementation of soil stabilizers on unpaved roads monthly over the course of construction per email communication with Monica Soucier of the ICAPCD (2021).

As shown in Table 2-6, emissions generated during Project construction would not exceed the ICAPCD's thresholds of significance with implementation of mitigation measures AQ-1.

### Operational Criteria Air Quality Emissions

Although limited, implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and SO<sub>2</sub> as well as O<sub>3</sub> precursors such as ROG and NO<sub>x</sub>. Project-generated increases in emissions would be predominately associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Long-term operational emissions attributable to the Project are identified in Table 2-7 and compared to the operational significance thresholds promulgated by the ICAPCD.



<b>Table 2-7. Operational-Related Emissions (Regional Significance Analysis)- Solar and Battery Storage Facilities</b>						
<b>Emission Source</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</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>
<b>Summer</b>						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.01	0.01	0.10	0.00	3.54	0.35
<b>Total:</b>	<b>51.52</b>	<b>6.06</b>	<b>5.42</b>	<b>0.03</b>	<b>4.00</b>	<b>0.81</b>
<i>ICAPCD Significance Threshold</i>	<i>137</i>	<i>137</i>	<i>150</i>	<i>550</i>	<i>550</i>	<i>150</i>
<b><i>Exceed ICAPCD Significance Threshold?</i></b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Winter</b>						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.00	0.01	0.08	0.00	3.54	0.35
<b>Total:</b>	<b>51.51</b>	<b>6.06</b>	<b>5.40</b>	<b>0.03</b>	<b>4.00</b>	<b>0.81</b>
<i>ICAPCD Significance Threshold</i>	<i>137</i>	<i>137</i>	<i>150</i>	<i>550</i>	<i>550</i>	<i>150</i>
<b><i>Exceed ICAPCD Significance Threshold?</i></b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 2-7, the Project's emissions would not exceed any ICAPCD's thresholds for any criteria air pollutants during operation. Additionally, the purpose of the Project is the construction of a renewable energy and storage facility. Once in operation, it will decrease the need for energy from fossil fuel-based power plants in the state (see Table 2-8). Thus, once operational the Project would represent a beneficial impact to air quality.

### Conflict with an Applicable Air Quality Management Plan

As previously described, the Project region is classified as nonattainment for federal ozone, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> standards (CARB 2019). The USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP, detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management

plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The region's SIP is constituted of the ICAPCD air quality plans: 2018 PM<sub>10</sub> SIP, the 2018 Annual PM<sub>2.5</sub> SIP, the 2017 8-Hour Ozone SIP, 2013 24-Hour PM<sub>2.5</sub> SIP, the 2009 1997 8-hour Ozone RACT SIP, the 2009 PM<sub>10</sub> SIP and the 2008 Ozone Early Progress Plans. Project compliance with all of the ICAPCD rules and regulations results in conformance with the ICAPCD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIP plans and associated control measures are based on information derived from projected growth in Imperial County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Imperial County and the incorporated cities in the county.

As previously described, the Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 MWs with accompanying battery storage on approximately 1,963 acres of land. The Project would not result in population growth and would not cause an increase in currently established population projections. The Project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth.

Furthermore, the operation of the Project would create renewable energy over its planned lifetime and decrease the need for energy from fossil fuel-based power plants in the state, which is considered a beneficial impact to statewide air quality. The energy produced by the Project would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas and coal).

Table 2-8 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (California Energy Commission [CEC] 2019a). Displacement of fossil fuel emissions has a direct beneficial effect on human health for those receptors downwind of the location of the fossil fuel power plants.

**Table 2-8. Proposed Project Displaced Criteria Pollutant Emissions (Tons)**

Construction Year	Emissions (Tons)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Emissions Displaced Annually (tons)</b>						
Displaced Natural Gas-Source Emissions	0	0.61	0.19	0.42	0.58	0.23
Displaced Coal-Source Emissions	0	4.31	0.18	0.20	0.03	0.02
<b>Total</b>	0	4.92	0.37	0.63	0.61	0.26
<b>Emissions Displaced over 30 Years (tons)</b>						
Displaced Natural Gas-Source Emissions	0	18.36	5.56	12.61	17.43	7.05
Displaced Coal-Source Emissions	0	129.38	5.39	6.15	0.91	0.65
<b>Total</b>	0	147.74	10.95	18.76	18.34	7.69

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.

Notes: In order to provide a conservative analysis, the proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:

\*\*Steam Boiler fueled by coal: 10,800 heat rate \*\*Steam Boiler fueled by natural gas: 10,200 heat rate \*\*Gas Turbine: 10,100 heat rate

\*\*Combined natural gas Boiler and Turbine: 7,640 heat rate

By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWh) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace just under 147.74 tons of NO<sub>x</sub>, 10.95 tons of CO, 18.76 tons of SO<sub>2</sub>, 18.34 tons of PM<sub>10</sub>, and 7.69 tons of PM<sub>2.5</sub> over the course of 30 years. Furthermore, as demonstrated in Table 2-6 and Table 2-7, the Project would not exceed the applicable significance thresholds for construction or operational-source emissions.

### Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

### *Construction-Generated Air Contaminants*

Construction of the Project would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NO<sub>x</sub>, CO, and PM<sub>10</sub> from the exhaust of off-road, heavy-duty diesel equipment for Project construction; soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the SSAB which encompasses the Project area is designated as a nonattainment area for federal O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> standards and is also a nonattainment area for the state standards for O<sub>3</sub> and PM<sub>10</sub> (CARB 2019). Thus, existing O<sub>3</sub> and PM<sub>10</sub> levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 2-6, the Project would not exceed the ICAPCD significance thresholds for construction emissions.

The health effects associated with O<sub>3</sub> are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O<sub>3</sub> precursor emissions (ROG or NO<sub>x</sub>) in excess of the ICAPCD thresholds, the Project is not anticipated to substantially contribute to regional O<sub>3</sub> concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. PM<sub>10</sub> exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O<sub>3</sub> and NO<sub>x</sub>, the Project would not generate emissions of PM<sub>10</sub> or PM<sub>2.5</sub> that would exceed the ICAPCD's thresholds. Accordingly, the Project's PM<sub>10</sub> and PM<sub>2.5</sub> emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

### *Operational Air Contaminants*

Operation of the Proposed Project would not result in the development of any substantial sources of air toxins. There would be no stationary sources associated Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the Proposed Project would be routine maintenance

work and site security as well as panel upkeep and cleaning. Therefore, the Project would not be a substantial source of TACs. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation.

#### Naturally Occurring Asbestos

Another potential air quality issue associated with construction-related activities is the airborne entrainment of asbestos due to the disturbance of naturally-occurring asbestos-containing soils. The Proposed Project is not located within an area designated by the State of California as likely to contain naturally-occurring asbestos (Department of Conservation [DOC] 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos.

#### Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards

(SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO “hot spot” analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The Proposed Project is anticipated to result in no more than two daily traffic trips. It is noted that this is a conservative estimate and many days will have no operational related vehicle trips. Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values.

## **Odors**

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

### *Project Construction*

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the Project area. Therefore, odors generated during Project construction would not adversely affect a substantial number of people to odor emissions.

### *Project Operations*

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors.

## **3.0 GREENHOUSE GAS EMISSIONS**

### **3.1 Greenhouse Gas Setting**

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO<sub>2</sub>, methane (CH<sub>4</sub>), and N<sub>2</sub>O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps over 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub> (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e), which weight each gas by its global warming potential. Expressing GHG emissions in CO<sub>2</sub>e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere (IPCC 2013).



**Table 3-1. Greenhouse Gases**

Greenhouse Gas	Description
CO <sub>2</sub>	Carbon dioxide is a colorless, odorless gas. CO <sub>2</sub> is emitted in a number of ways, both naturally and through human activities. The largest source of CO <sub>2</sub> emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO <sub>2</sub> emissions. The atmospheric lifetime of CO <sub>2</sub> is variable because it is so readily exchanged in the atmosphere. <sup>1</sup>
CH <sub>4</sub>	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH <sub>4</sub> to the atmosphere. Natural sources of CH <sub>4</sub> include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH <sub>4</sub> is about 12 years. <sup>2</sup>
N <sub>2</sub> O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N <sub>2</sub> O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N <sub>2</sub> O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N <sub>2</sub> O is approximately 120 years. <sup>3</sup>

Sources: <sup>1</sup>USEPA 2016a, <sup>2</sup>USEPA 2016b, <sup>3</sup>USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

### 3.1.1 Sources of Greenhouse Gas Emissions

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO<sub>2</sub>e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2020b). Emissions of CO<sub>2</sub> are byproducts of fossil fuel combustion. CH<sub>4</sub>, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N<sub>2</sub>O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through sequestration and dissolution (CO<sub>2</sub> dissolving into the water), respectively, two of the most common processes for removing CO<sub>2</sub> from the atmosphere.

## **3.2 Regulatory Framework**

### **3.2.1 State**

#### **Executive Order S-3-05**

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

#### **Assembly Bill 32 Climate Change Scoping Plan and Updates**

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

#### **Senate Bill 32 and Assembly Bill 197 of 2016**

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

#### **Senate Bill 100 of 2018**

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

### **3.3 Greenhouse Gas Emissions Impact Assessment**

#### **3.3.1 Thresholds of Significance**

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

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

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). As a note, the CEQA

Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The ICAPCD has not adopted a GHG significance threshold yet recommends the 100,000-metric ton of CO<sub>2</sub>e threshold established by the Mojave Desert Air Quality Management District (MDAQMD). As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). This ICAPCD-recommended threshold is appropriate as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County. Therefore, the 100,000-metric ton of CO<sub>2</sub>e threshold is appropriate for this analysis.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 214, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant

climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

### **3.3.2 Methodology**

GHG-related impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction generated GHG emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Study prepared for the Project (KOA 2021a & 2021b), the number of on-site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on-site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Operational air pollutant emissions account for a conservative estimate of two worker trip per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

### **3.3.3 Impact Analysis**

#### **Generation of GHG Emissions**

##### *Project Construction*

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

<b>Table 3-2. Construction-Related Greenhouse Gas Emissions</b>	
<b>Emissions Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
Construction of Vega 2 and 3 (2023)	961
Construction of Vega 5 (2024)	787
<i>Significance Threshold</i>	<i>10,000</i>
<b>Exceed Significance Threshold?</b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-2, implementation of the Project would result in the generation of approximately 961 metric tons of CO<sub>2</sub>e for the construction of Vega 2 and 3, and 787 metric tons of CO<sub>2</sub>e for the construction of Vega 5. Therefore, Project GHG emissions would not exceed the significance threshold.

Additionally, the Project proposes a solar energy generation facility intended to generate renewable energy. Solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. As identified in Table 3-5, the Project could potentially displace approximately 12,620 metric tons of CO<sub>2</sub>e per year, and approximately 378,597 metric tons of CO<sub>2</sub>e over the course of 30 years, which is considerably more than would be generated during construction.

#### *Project Operations*

Operation of the Project would result in an increase in GHG emissions solely associated with motor vehicle trips. Long-term GHG emissions attributed to operations of the Project are identified in Table 3-3.

**Table 3-3. Operational-Related Greenhouse Gas Emissions**

<b>Emission Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
Area Source	0
Energy	2,720
Mobile	4
Waste	0
Water	10
<b>Total</b>	<b>2,734</b>
<i>Significance Threshold</i>	<i>100,000</i>
<b><i>Exceed Significance Threshold?</i></b>	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Emission projections predominately based on CalEEMod model defaults for Imperial County. Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 3-3, operational-generated emissions would not exceed the potentially significant impact threshold of 100,000 metric tons of CO<sub>2</sub>e annually.

### **Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases**

The Project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Proposed Project is subject to compliance with SB 32. As discussed previously, the Proposed Project-generated GHG emissions would not surpass either the SCAQMD or CAPCOA GHG significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. Additionally, once construction is complete, the Project would be a producer of renewable energy, which generates substantially less GHG emissions compared with the more common types of fossil-fueled energy generation facilities.

GHG emissions generated by energy sources account for all stages of the life cycle (including mining, construction, etc.), which are referred to as the cumulative GHG emissions and are usually expressed in grams of CO<sub>2</sub>e per unit of busbar electricity (i.e., gCO<sub>2</sub>/kWh<sub>e</sub>). When comparing various fossil-fueled energy generators, the GHG emissions generated are dependent on the type of fuel (i.e., gas, oil, coal). GHG emissions generated by some of the more common types of fossil-fueled plants and solar-power plants are summarized in Table 3-4.

**Table 3-4. Life-Cycle Greenhouse Gas Emissions for Various Types of Energy Generators**

Fossil Fueled	
Coal	950 to 1,250
Oil	500 to 1,200
Gas	440 to 780
Solar	43 to 73 <sup>3</sup>

Source: Weisser 2007

Notes:

1 gCO<sub>2</sub>e/kWhe = grams of CO<sub>2</sub>e per unit of busbar electricity.

2 Emissions are based on lifecycle of energy source including mining, construction, operation, etc.

3 Solar PV life-cycle emissions result from using fossil-fuel-based energy to produce the materials for solar cells, modules, and systems, as well as directly from smelting, production, and manufacturing facilities.

As shown in Table 3-4, solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. Therefore, the Proposed Project would contribute to the continued reduction of GHG emissions in the interconnected California and western U.S. electricity systems, as the energy produced by the Project would displace GHG emissions that would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, and renewable combustion resources). The Project would generate a maximum of 14.6 MW of electricity at any one time. Table 3-5 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (CEC 2019a).



<b>Table 3-5. Proposed Project Displaced GHG Emissions (Metric Tons)</b>				
	<b>Emissions (Metric Tons)</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>
<b>Emissions Displaced Annually (metric tons)</b>				
Displaced Natural Gas-Source Emissions	10,880	0.00	0.00	10,880
Displaced Coal-Source Emissions	1,737	0.01	0.01	1,740
<b>Total</b>	<b>12,617</b>	<b>0.01</b>	<b>0.01</b>	<b>12,620</b>
<b>Emissions Displaced over 30 Years (metric tons)</b>				
Displaced Natural Gas-Source Emissions	326,411	0.00	0.00	326,411
Displaced Coal-Source Emissions	52,097	0.35	0.26	52,186
<b>Total</b>	<b>378,508</b>	<b>0.35</b>	<b>0.26</b>	<b>378,597</b>

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.

Notes: In order to provide a conservative analysis, the Proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:

\*\*Steam Boiler fueled by coal: 10,800 heat rate \*\*Steam Boiler fueled by natural gas: 10,200 heat rate \*\*Gas Turbine: 10,100 heat rate

\*\*Combined natural gas Boiler and Turbine: 7,640 heat rate

By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWh) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace approximately 12,620 metric tons of CO<sub>2</sub>e per year, and approximately 378,597 metric tons of CO<sub>2</sub>e over the course of 30 years.

While the Project would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. (Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by year 2030.) Therefore, the short-term minor generation of GHG emissions during construction which is necessary to create this new, low-GHG-emitting power-generating facility, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing sources of solar energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The Proposed Project would reduce GHG emissions in a manner consistent with SB 32 and other California GHG-reducing legislation by creating a new source of solar power to replace the current use of fossil-fuel power and reduce GHG emissions power generation and use.

The Project would not conflict with any applicable plan, policy, or regulation intended to reduce GHG emissions.

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## **LIST OF ATTACHMENTS**

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Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emissions Displacement

CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 2 & 3****Imperial County, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

## Vega 2 &amp; 3 - Imperial County, Summer

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00



## Vega 2 &amp; 3 - Imperial County, Summer

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	5.4609	35.0950	50.9464	0.0898	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	5.4609	35.0950	50.9464	0.0898	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187

## Vega 2 &amp; 3 - Imperial 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	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00

## Vega 2 &amp; 3 - Imperial 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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
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>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>0.3621</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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
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>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>0.3621</b>

## Vega 2 &amp; 3 - Imperial 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 & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 129****Acres of Paving: 1553****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

## Vega 2 &amp; 3 - Imperial County, Summer

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>		<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</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	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,821.5065</b>	<b>1,821.5065</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.9237</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>	<b>0.0000</b>	<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</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	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,821.5065</b>	<b>1,821.5065</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.9237</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.477 7	6,011.477 7	1.9442		6,060.083 6
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.4245</b>	<b>10.6281</b>	<b>3.6538</b>	<b>1.3105</b>	<b>4.9643</b>		<b>6,011.477 7</b>	<b>6,011.477 7</b>	<b>1.9442</b>		<b>6,060.083 6</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	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.506 5	1,821.506 5	0.0576	0.0536	1,838.923 7
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,821.506 5</b>	<b>1,821.506 5</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.923 7</b>



## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****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					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.477 7	6,011.477 7	1.9442		6,060.083 6
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.4245</b>	<b>5.0139</b>	<b>1.4250</b>	<b>1.3105</b>	<b>2.7355</b>	<b>0.0000</b>	<b>6,011.477 7</b>	<b>6,011.477 7</b>	<b>1.9442</b>		<b>6,060.083 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	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.506 5	1,821.506 5	0.0576	0.0536	1,838.923 7
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,821.506 5</b>	<b>1,821.506 5</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.923 7</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
<b>Total</b>	<b>1.9194</b>	<b>17.6181</b>	<b>18.8361</b>	<b>0.0303</b>		<b>0.9240</b>	<b>0.9240</b>		<b>0.8648</b>	<b>0.8648</b>		<b>2,882.4098</b>	<b>2,882.4098</b>	<b>0.7137</b>		<b>2,900.2515</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	5.0300e-003	0.0924	0.0420	6.0000e-004	4.5734	9.8000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
<b>Total</b>	<b>1.2569</b>	<b>0.6718</b>	<b>8.7841</b>	<b>0.0186</b>	<b>606.6882</b>	<b>0.0106</b>	<b>606.6988</b>	<b>60.8253</b>	<b>9.8000e-003</b>	<b>60.8351</b>		<b>1,884.3115</b>	<b>1,884.3115</b>	<b>0.0579</b>	<b>0.0623</b>	<b>1,904.3099</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
<b>Total</b>	<b>1.9194</b>	<b>17.6181</b>	<b>18.8361</b>	<b>0.0303</b>		<b>0.9240</b>	<b>0.9240</b>		<b>0.8648</b>	<b>0.8648</b>	<b>0.0000</b>	<b>2,882.4098</b>	<b>2,882.4098</b>	<b>0.7137</b>		<b>2,900.2515</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	5.0300e-003	0.0924	0.0420	6.0000e-004	0.4382	9.8000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
<b>Total</b>	<b>1.2569</b>	<b>0.6718</b>	<b>8.7841</b>	<b>0.0186</b>	<b>57.2515</b>	<b>0.0106</b>	<b>57.2621</b>	<b>5.9910</b>	<b>9.8000e-003</b>	<b>6.0008</b>		<b>1,884.3115</b>	<b>1,884.3115</b>	<b>0.0579</b>	<b>0.0623</b>	<b>1,904.3099</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</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	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.506 5	1,821.506 5	0.0576	0.0536	1,838.923 7
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,821.506 5</b>	<b>1,821.506 5</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.923 7</b>

## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 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	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.506 5	1,821.506 5	0.0576	0.0536	1,838.923 7
<b>Total</b>	<b>1.2518</b>	<b>0.5794</b>	<b>8.7421</b>	<b>0.0180</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,821.506 5</b>	<b>1,821.506 5</b>	<b>0.0576</b>	<b>0.0536</b>	<b>1,838.923 7</b>

## Vega 2 &amp; 3 - Imperial 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

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

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

## Vega 2 &amp; 3 - Imperial County, Summer

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

**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

## Vega 2 &amp; 3 - Imperial 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 - 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					
General Light Industry	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
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>

**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					
General Light Industry	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
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**



## Vega 2 &amp; 3 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

**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	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
<b>Total</b>	<b>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>		<b>0.3621</b>

## Vega 2 &amp; 3 - Imperial 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	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
<b>Total</b>	<b>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>		<b>0.3621</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Vega 2 &amp; 3 - Imperial 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
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**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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## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 2 & 3**  
**Imperial County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

## Vega 2 &amp; 3 - Imperial County, Annual

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

## Vega 2 &amp; 3 - Imperial County, Annual

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6763	0.0107	133.1167	0.1837	133.3004	13.4062	0.1706	13.5768	0.0000	953.0591	953.0591	0.1862	0.0119	961.2724
Maximum	0.6150	3.8347	5.6763	0.0107	133.1167	0.1837	133.3004	13.4062	0.1706	13.5768	0.0000	953.0591	953.0591	0.1862	0.0119	961.2724

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6762	0.0107	12.6285	0.1837	12.8122	1.3455	0.1706	1.5161	0.0000	953.0584	953.0584	0.1862	0.0119	961.2717
Maximum	0.6150	3.8347	5.6762	0.0107	12.6285	0.1837	12.8122	1.3455	0.1706	1.5161	0.0000	953.0584	953.0584	0.1862	0.0119	961.2717

## Vega 2 &amp; 3 - Imperial County, Annual

**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	90.51	0.00	90.39	89.96	0.00	88.83	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-30-2022	2-27-2023	0.6508	0.6508
2	2-28-2023	5-29-2023	1.1529	1.1529
3	5-30-2023	8-29-2023	1.1343	1.1343
4	8-30-2023	9-30-2023	0.3945	0.3945
		Highest	1.1529	1.1529

**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	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.7852	1.3000e-004	0.0143	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
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>5.7852</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0278</b>	<b>0.0278</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.0296</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</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 & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	



## Vega 2 &amp; 3 - Imperial County, Annual

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

4	Paving	Paving	4/3/2023	12/29/2023	5	195
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**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 129****Acres of Paving: 1553****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

## Vega 2 &amp; 3 - Imperial County, Annual

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

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 & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition & Grubbing - 2023****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	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3913	37.3913	0.0105	0.0000	37.6531
<b>Total</b>	<b>0.0250</b>	<b>0.2363</b>	<b>0.2161</b>	<b>4.3000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0102</b>	<b>0.0102</b>	<b>0.0000</b>	<b>37.3913</b>	<b>37.3913</b>	<b>0.0105</b>	<b>0.0000</b>	<b>37.6531</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	6.4060	1.1000e-004	6.4061	0.6423	1.0000e-004	0.6424	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
<b>Total</b>	<b>0.0111</b>	<b>6.5300e-003</b>	<b>0.0771</b>	<b>1.8000e-004</b>	<b>6.4060</b>	<b>1.1000e-004</b>	<b>6.4061</b>	<b>0.6423</b>	<b>1.0000e-004</b>	<b>0.6424</b>	<b>0.0000</b>	<b>16.5675</b>	<b>16.5675</b>	<b>5.6000e-004</b>	<b>5.4000e-004</b>	<b>16.7424</b>

**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	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3912	37.3912	0.0105	0.0000	37.6530
<b>Total</b>	<b>0.0250</b>	<b>0.2363</b>	<b>0.2161</b>	<b>4.3000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0102</b>	<b>0.0102</b>	<b>0.0000</b>	<b>37.3912</b>	<b>37.3912</b>	<b>0.0105</b>	<b>0.0000</b>	<b>37.6530</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	0.6049	1.1000e-004	0.6050	0.0634	1.0000e-004	0.0635	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
<b>Total</b>	<b>0.0111</b>	<b>6.5300e-003</b>	<b>0.0771</b>	<b>1.8000e-004</b>	<b>0.6049</b>	<b>1.1000e-004</b>	<b>0.6050</b>	<b>0.0634</b>	<b>1.0000e-004</b>	<b>0.0635</b>	<b>0.0000</b>	<b>16.5675</b>	<b>16.5675</b>	<b>5.6000e-004</b>	<b>5.4000e-004</b>	<b>16.7424</b>

**3.3 Grading - 2023****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					0.1979	0.0000	0.1979	0.0786	0.0000	0.0786	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2507	117.2507	0.0379	0.0000	118.1987
<b>Total</b>	<b>0.0714</b>	<b>0.7421</b>	<b>0.6031</b>	<b>1.3300e-003</b>	<b>0.1979</b>	<b>0.0306</b>	<b>0.2285</b>	<b>0.0786</b>	<b>0.0282</b>	<b>0.1067</b>	<b>0.0000</b>	<b>117.2507</b>	<b>117.2507</b>	<b>0.0379</b>	<b>0.0000</b>	<b>118.1987</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	12.5208	2.1000e-004	12.5210	1.2554	1.9000e-004	1.2556	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
<b>Total</b>	<b>0.0218</b>	<b>0.0128</b>	<b>0.1507</b>	<b>3.5000e-004</b>	<b>12.5208</b>	<b>2.1000e-004</b>	<b>12.5210</b>	<b>1.2554</b>	<b>1.9000e-004</b>	<b>1.2556</b>	<b>0.0000</b>	<b>32.3819</b>	<b>32.3819</b>	<b>1.0900e-003</b>	<b>1.0600e-003</b>	<b>32.7238</b>

**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					0.0772	0.0000	0.0772	0.0306	0.0000	0.0306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2506	117.2506	0.0379	0.0000	118.1986
<b>Total</b>	<b>0.0714</b>	<b>0.7421</b>	<b>0.6031</b>	<b>1.3300e-003</b>	<b>0.0772</b>	<b>0.0306</b>	<b>0.1078</b>	<b>0.0306</b>	<b>0.0282</b>	<b>0.0588</b>	<b>0.0000</b>	<b>117.2506</b>	<b>117.2506</b>	<b>0.0379</b>	<b>0.0000</b>	<b>118.1986</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	1.1823	2.1000e-004	1.1825	0.1238	1.9000e-004	0.1240	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
<b>Total</b>	<b>0.0218</b>	<b>0.0128</b>	<b>0.1507</b>	<b>3.5000e-004</b>	<b>1.1823</b>	<b>2.1000e-004</b>	<b>1.1825</b>	<b>0.1238</b>	<b>1.9000e-004</b>	<b>0.1240</b>	<b>0.0000</b>	<b>32.3819</b>	<b>32.3819</b>	<b>1.0900e-003</b>	<b>1.0600e-003</b>	<b>32.7238</b>

**3.4 Building Construction - 2023****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	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9506	254.9506	0.0631	0.0000	256.5287
<b>Total</b>	<b>0.1872</b>	<b>1.7178</b>	<b>1.8365</b>	<b>2.9600e-003</b>		<b>0.0901</b>	<b>0.0901</b>		<b>0.0843</b>	<b>0.0843</b>	<b>0.0000</b>	<b>254.9506</b>	<b>254.9506</b>	<b>0.0631</b>	<b>0.0000</b>	<b>256.5287</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.4313	1.0000e-004	0.4314	0.0434	9.0000e-005	0.0435	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
<b>Total</b>	<b>0.0992</b>	<b>0.0676</b>	<b>0.6875</b>	<b>1.6600e-003</b>	<b>57.2117</b>	<b>1.0400e-003</b>	<b>57.2127</b>	<b>5.7367</b>	<b>9.5000e-004</b>	<b>5.7376</b>	<b>0.0000</b>	<b>152.4072</b>	<b>152.4072</b>	<b>4.9600e-003</b>	<b>5.5600e-003</b>	<b>154.1866</b>

**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	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9503	254.9503	0.0631	0.0000	256.5284
<b>Total</b>	<b>0.1872</b>	<b>1.7178</b>	<b>1.8365</b>	<b>2.9600e-003</b>		<b>0.0901</b>	<b>0.0901</b>		<b>0.0843</b>	<b>0.0843</b>	<b>0.0000</b>	<b>254.9503</b>	<b>254.9503</b>	<b>0.0631</b>	<b>0.0000</b>	<b>256.5284</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.0414	1.0000e-004	0.0415	4.5000e-003	9.0000e-005	4.5900e-003	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
<b>Total</b>	<b>0.0992</b>	<b>0.0676</b>	<b>0.6875</b>	<b>1.6600e-003</b>	<b>5.4028</b>	<b>1.0400e-003</b>	<b>5.4038</b>	<b>0.5661</b>	<b>9.5000e-004</b>	<b>0.5671</b>	<b>0.0000</b>	<b>152.4072</b>	<b>152.4072</b>	<b>4.9600e-003</b>	<b>5.5600e-003</b>	<b>154.1866</b>

**3.5 Paving - 2023****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	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2620	195.2620	0.0632	0.0000	196.8407
Paving	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>0.1007</b>	<b>0.9937</b>	<b>1.4220</b>	<b>2.2200e-003</b>		<b>0.0497</b>	<b>0.0497</b>		<b>0.0458</b>	<b>0.0458</b>	<b>0.0000</b>	<b>195.2620</b>	<b>195.2620</b>	<b>0.0632</b>	<b>0.0000</b>	<b>196.8407</b>



## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
<b>Total</b>	<b>0.0987</b>	<b>0.0579</b>	<b>0.6833</b>	<b>1.6000e-003</b>	<b>56.7804</b>	<b>9.4000e-004</b>	<b>56.7813</b>	<b>5.6933</b>	<b>8.6000e-004</b>	<b>5.6941</b>	<b>0.0000</b>	<b>146.8480</b>	<b>146.8480</b>	<b>4.9400e-003</b>	<b>4.7900e-003</b>	<b>148.3985</b>

**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	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2617	195.2617	0.0632	0.0000	196.8405
Paving	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>0.1007</b>	<b>0.9937</b>	<b>1.4220</b>	<b>2.2200e-003</b>		<b>0.0497</b>	<b>0.0497</b>		<b>0.0458</b>	<b>0.0458</b>	<b>0.0000</b>	<b>195.2617</b>	<b>195.2617</b>	<b>0.0632</b>	<b>0.0000</b>	<b>196.8405</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
<b>Total</b>	<b>0.0987</b>	<b>0.0579</b>	<b>0.6833</b>	<b>1.6000e-003</b>	<b>5.3614</b>	<b>9.4000e-004</b>	<b>5.3623</b>	<b>0.5616</b>	<b>8.6000e-004</b>	<b>0.5625</b>	<b>0.0000</b>	<b>146.8480</b>	<b>146.8480</b>	<b>4.9400e-003</b>	<b>4.7900e-003</b>	<b>148.3985</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Vega 2 &amp; 3 - Imperial County, Annual

**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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

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

**4.3 Trip Type Information**

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	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
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

**5.0 Energy Detail**

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

## 5.1 Mitigation Measures Energy

[illegible]

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

### Unmitigated

[illegible]

**Mitigated**

[illegible]

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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**

## Vega 2 &amp; 3 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Unmitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296

**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	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
<b>Total</b>	<b>5.7852</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0278</b>	<b>0.0278</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.0296</b>

## Vega 2 &amp; 3 - Imperial County, Annual

**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	tons/yr										MT/yr					
Architectural Coating	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
<b>Total</b>	<b>5.7852</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0278</b>	<b>0.0278</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.0296</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**



## Vega 2 &amp; 3 - Imperial County, Annual

**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			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
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>

## Vega 2 &amp; 3 - Imperial County, Annual

**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			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
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****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

## Vega 2 &amp; 3 - Imperial County, Annual

**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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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**

## Vega 2 &amp; 3 - Imperial County, Annual

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

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**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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## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 2 & 3****Imperial County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

## Vega 2 &amp; 3 - Imperial County, Winter

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

## Vega 2 &amp; 3 - Imperial County, Winter

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	4.8376	35.1215	45.9687	0.0844	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	4.8376	35.1215	45.9687	0.0844	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569

## Vega 2 &amp; 3 - Imperial 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	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00



## Vega 2 &amp; 3 - Imperial 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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
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>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>0.3621</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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
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>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>0.3621</b>

## Vega 2 &amp; 3 - Imperial 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 & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 129****Acres of Paving: 1553****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

## Vega 2 &amp; 3 - Imperial County, Winter

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>		<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</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	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,548.2795</b>	<b>1,548.2795</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.0824</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2023****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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>	<b>0.0000</b>	<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</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	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,548.2795</b>	<b>1,548.2795</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.0824</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.477 7	6,011.477 7	1.9442		6,060.083 6
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.4245</b>	<b>10.6281</b>	<b>3.6538</b>	<b>1.3105</b>	<b>4.9643</b>		<b>6,011.477 7</b>	<b>6,011.477 7</b>	<b>1.9442</b>		<b>6,060.083 6</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	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.279 5	1,548.279 5	0.0581	0.0549	1,566.082 4
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,548.279 5</b>	<b>1,548.279 5</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.082 4</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2023****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					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.477 7	6,011.477 7	1.9442		6,060.083 6
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.4245</b>	<b>5.0139</b>	<b>1.4250</b>	<b>1.3105</b>	<b>2.7355</b>	<b>0.0000</b>	<b>6,011.477 7</b>	<b>6,011.477 7</b>	<b>1.9442</b>		<b>6,060.083 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	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.279 5	1,548.279 5	0.0581	0.0549	1,566.082 4
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,548.279 5</b>	<b>1,548.279 5</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.082 4</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
<b>Total</b>	<b>1.9194</b>	<b>17.6181</b>	<b>18.8361</b>	<b>0.0303</b>		<b>0.9240</b>	<b>0.9240</b>		<b>0.8648</b>	<b>0.8648</b>		<b>2,882.4098</b>	<b>2,882.4098</b>	<b>0.7137</b>		<b>2,900.2515</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	4.7800e-003	0.1021	0.0432	6.0000e-004	4.5734	9.9000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
<b>Total</b>	<b>0.9451</b>	<b>0.7080</b>	<b>6.2958</b>	<b>0.0159</b>	<b>606.6882</b>	<b>0.0106</b>	<b>606.6988</b>	<b>60.8253</b>	<b>9.8000e-003</b>	<b>60.8351</b>		<b>1,611.1932</b>	<b>1,611.1932</b>	<b>0.0584</b>	<b>0.0636</b>	<b>1,631.5894</b>



## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2023****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	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
<b>Total</b>	<b>1.9194</b>	<b>17.6181</b>	<b>18.8361</b>	<b>0.0303</b>		<b>0.9240</b>	<b>0.9240</b>		<b>0.8648</b>	<b>0.8648</b>	<b>0.0000</b>	<b>2,882.4098</b>	<b>2,882.4098</b>	<b>0.7137</b>		<b>2,900.2515</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	4.7800e-003	0.1021	0.0432	6.0000e-004	0.4382	9.9000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
<b>Total</b>	<b>0.9451</b>	<b>0.7080</b>	<b>6.2958</b>	<b>0.0159</b>	<b>57.2515</b>	<b>0.0106</b>	<b>57.2621</b>	<b>5.9910</b>	<b>9.8000e-003</b>	<b>6.0008</b>		<b>1,611.1932</b>	<b>1,611.1932</b>	<b>0.0584</b>	<b>0.0636</b>	<b>1,631.5894</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</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	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.279 5	1,548.279 5	0.0581	0.0549	1,566.082 4
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>602.1148</b>	<b>9.6200e-003</b>	<b>602.1244</b>	<b>60.3651</b>	<b>8.8600e-003</b>	<b>60.3740</b>		<b>1,548.279 5</b>	<b>1,548.279 5</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.082 4</b>

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2023****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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 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	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.279 5	1,548.279 5	0.0581	0.0549	1,566.082 4
<b>Total</b>	<b>0.9403</b>	<b>0.6059</b>	<b>6.2526</b>	<b>0.0153</b>	<b>56.8133</b>	<b>9.6200e-003</b>	<b>56.8229</b>	<b>5.9435</b>	<b>8.8600e-003</b>	<b>5.9524</b>		<b>1,548.279 5</b>	<b>1,548.279 5</b>	<b>0.0581</b>	<b>0.0549</b>	<b>1,566.082 4</b>

## Vega 2 &amp; 3 - Imperial 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**

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

**4.3 Trip Type Information**

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

## Vega 2 &amp; 3 - Imperial County, Winter

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

**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

## Vega 2 &amp; 3 - Imperial 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****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					
General Light Industry	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
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>

**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					
General Light Industry	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
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**

## Vega 2 &amp; 3 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

**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	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
<b>Total</b>	<b>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>		<b>0.3621</b>

## Vega 2 &amp; 3 - Imperial 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	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
<b>Total</b>	<b>31.7072</b>	<b>1.4400e-003</b>	<b>0.1583</b>	<b>1.0000e-005</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>5.6000e-004</b>	<b>5.6000e-004</b>		<b>0.3399</b>	<b>0.3399</b>	<b>8.9000e-004</b>		<b>0.3621</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**



## Vega 2 &amp; 3 - Imperial 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
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**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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## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 5****Imperial County, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2025
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

## Vega 5 - Imperial County, Summer

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

## Vega 5 - Imperial County, Summer

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	3.9647	32.6342	41.4866	0.0712	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	3.9647	32.6342	41.4866	0.0712	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344

## Vega 5 - Imperial 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	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

## Vega 5 - Imperial 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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
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>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>0.0956</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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
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>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>0.0956</b>

## Vega 5 - Imperial 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 & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 126****Acres of Paving: 410****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

## Vega 5 - Imperial County, Summer

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads



## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 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	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
<b>Total</b>	<b>2.2437</b>	<b>20.8781</b>	<b>19.7073</b>	<b>0.0388</b>		<b>0.9602</b>	<b>0.9602</b>		<b>0.8922</b>	<b>0.8922</b>		<b>3,747.4228</b>	<b>3,747.4228</b>	<b>1.0485</b>		<b>3,773.6345</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 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	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
<b>Total</b>	<b>2.2437</b>	<b>20.8781</b>	<b>19.7073</b>	<b>0.0388</b>		<b>0.9602</b>	<b>0.9602</b>		<b>0.8922</b>	<b>0.8922</b>	<b>0.0000</b>	<b>3,747.4228</b>	<b>3,747.4228</b>	<b>1.0485</b>		<b>3,773.6345</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.748 7	6,009.748 7	1.9437		6,058.340 5
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.3354</b>	<b>10.5390</b>	<b>3.6538</b>	<b>1.2286</b>	<b>4.8823</b>		<b>6,009.748 7</b>	<b>6,009.748 7</b>	<b>1.9437</b>		<b>6,058.340 5</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 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					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.748 7	6,009.748 7	1.9437		6,058.340 5
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.3354</b>	<b>4.9248</b>	<b>1.4250</b>	<b>1.2286</b>	<b>2.6535</b>	<b>0.0000</b>	<b>6,009.748 7</b>	<b>6,009.748 7</b>	<b>1.9437</b>		<b>6,058.340 5</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
<b>Total</b>	<b>1.8116</b>	<b>16.6032</b>	<b>18.7590</b>	<b>0.0303</b>		<b>0.8319</b>	<b>0.8319</b>		<b>0.7780</b>	<b>0.7780</b>		<b>2,882.8590</b>	<b>2,882.8590</b>	<b>0.7102</b>		<b>2,900.6130</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	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5849</b>	<b>0.3493</b>	<b>4.0711</b>	<b>9.3300e-003</b>	<b>0.9920</b>	<b>5.5400e-003</b>	<b>0.9975</b>	<b>0.2636</b>	<b>5.1300e-003</b>	<b>0.2688</b>		<b>945.2904</b>	<b>945.2904</b>	<b>0.0262</b>	<b>0.0333</b>	<b>955.8589</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
<b>Total</b>	<b>1.8116</b>	<b>16.6032</b>	<b>18.7590</b>	<b>0.0303</b>		<b>0.8319</b>	<b>0.8319</b>		<b>0.7780</b>	<b>0.7780</b>	<b>0.0000</b>	<b>2,882.8590</b>	<b>2,882.8590</b>	<b>0.7102</b>		<b>2,900.6130</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	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5849</b>	<b>0.3493</b>	<b>4.0711</b>	<b>9.3300e-003</b>	<b>0.9920</b>	<b>5.5400e-003</b>	<b>0.9975</b>	<b>0.2636</b>	<b>5.1300e-003</b>	<b>0.2688</b>		<b>945.2904</b>	<b>945.2904</b>	<b>0.0262</b>	<b>0.0333</b>	<b>955.8589</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</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	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
<b>Total</b>	<b>0.5801</b>	<b>0.2572</b>	<b>4.0308</b>	<b>8.7400e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>883.3310</b>	<b>883.3310</b>	<b>0.0260</b>	<b>0.0248</b>	<b>891.3662</b>



## Vega 5 - Imperial 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

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

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

## Vega 5 - Imperial County, Summer

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

**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

## Vega 5 - Imperial 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 - 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					
General Light Industry	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
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>

**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					
General Light Industry	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
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**

## Vega 5 - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

**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	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
<b>Total</b>	<b>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>		<b>0.0956</b>

## Vega 5 - Imperial 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	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
<b>Total</b>	<b>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>		<b>0.0956</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Vega 5 - Imperial 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
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**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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## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 5****Imperial County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2025
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

## Vega 5 - Imperial County, Annual

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00



## Vega 5 - Imperial County, Annual

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.4164	0.1683	0.5848	0.1360	0.1562	0.2922	0.0000	781.6556	781.6556	0.1805	5.9700e-003	787.9457
Maximum	0.4776	3.5638	4.8434	8.8700e-003	0.4164	0.1683	0.5848	0.1360	0.1562	0.2922	0.0000	781.6556	781.6556	0.1805	5.9700e-003	787.9457

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.2985	0.1683	0.4669	0.0892	0.1562	0.2454	0.0000	781.6549	781.6549	0.1805	5.9700e-003	787.9450
Maximum	0.4776	3.5638	4.8434	8.8700e-003	0.2985	0.1683	0.4669	0.0892	0.1562	0.2454	0.0000	781.6549	781.6549	0.1805	5.9700e-003	787.9450

## Vega 5 - Imperial County, Annual

## 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	28.31	0.00	20.16	34.41	0.00	16.02	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	11-30-2023	2-28-2024	0.6268	0.6268
6	2-29-2024	5-29-2024	1.0358	1.0358
7	5-30-2024	8-29-2024	1.0087	1.0087
8	8-30-2024	9-30-2024	0.3508	0.3508
		Highest	1.0358	1.0358

## 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	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-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
Total	1.5273	3.0000e-005	3.7600e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003

## Vega 5 - Imperial County, Annual

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

## 2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-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>1.5273</b>	<b>3.0000e-005</b>	<b>3.7600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>7.3300e-003</b>	<b>7.3300e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.8000e-003</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</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 & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	

## Vega 5 - Imperial County, Annual

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

4	Paving	Paving	4/1/2024	12/31/2024	5	197
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**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 126****Acres of Paving: 410****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

## Vega 5 - Imperial County, Annual

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

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 & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition & Grubbing - 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	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0955	39.0955	0.0109	0.0000	39.3689
<b>Total</b>	<b>0.0258</b>	<b>0.2401</b>	<b>0.2266</b>	<b>4.5000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0103</b>	<b>0.0103</b>	<b>0.0000</b>	<b>39.0955</b>	<b>39.0955</b>	<b>0.0109</b>	<b>0.0000</b>	<b>39.3689</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2024****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	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
<b>Total</b>	<b>5.4100e-003</b>	<b>3.0300e-003</b>	<b>0.0372</b>	<b>9.0000e-005</b>	<b>0.0111</b>	<b>5.0000e-005</b>	<b>0.0111</b>	<b>2.9400e-003</b>	<b>5.0000e-005</b>	<b>2.9900e-003</b>	<b>0.0000</b>	<b>8.4013</b>	<b>8.4013</b>	<b>2.6000e-004</b>	<b>2.6000e-004</b>	<b>8.4857</b>

**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	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0954	39.0954	0.0109	0.0000	39.3689
<b>Total</b>	<b>0.0258</b>	<b>0.2401</b>	<b>0.2266</b>	<b>4.5000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0103</b>	<b>0.0103</b>	<b>0.0000</b>	<b>39.0954</b>	<b>39.0954</b>	<b>0.0109</b>	<b>0.0000</b>	<b>39.3689</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 2024****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	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
<b>Total</b>	<b>5.4100e-003</b>	<b>3.0300e-003</b>	<b>0.0372</b>	<b>9.0000e-005</b>	<b>0.0111</b>	<b>5.0000e-005</b>	<b>0.0111</b>	<b>2.9400e-003</b>	<b>5.0000e-005</b>	<b>2.9900e-003</b>	<b>0.0000</b>	<b>8.4013</b>	<b>8.4013</b>	<b>2.6000e-004</b>	<b>2.6000e-004</b>	<b>8.4857</b>

**3.3 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					0.1933	0.0000	0.1933	0.0767	0.0000	0.0767	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4910	114.4910	0.0370	0.0000	115.4167
<b>Total</b>	<b>0.0676</b>	<b>0.6799</b>	<b>0.5822</b>	<b>1.3000e-003</b>	<b>0.1933</b>	<b>0.0280</b>	<b>0.2213</b>	<b>0.0767</b>	<b>0.0258</b>	<b>0.1025</b>	<b>0.0000</b>	<b>114.4910</b>	<b>114.4910</b>	<b>0.0370</b>	<b>0.0000</b>	<b>115.4167</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 Grading - 2024****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	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
<b>Total</b>	<b>9.8800e-003</b>	<b>5.5300e-003</b>	<b>0.0679</b>	<b>1.7000e-004</b>	<b>0.0202</b>	<b>1.0000e-004</b>	<b>0.0203</b>	<b>5.3700e-003</b>	<b>9.0000e-005</b>	<b>5.4500e-003</b>	<b>0.0000</b>	<b>15.3416</b>	<b>15.3416</b>	<b>4.8000e-004</b>	<b>4.8000e-004</b>	<b>15.4955</b>

**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					0.0754	0.0000	0.0754	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4909	114.4909	0.0370	0.0000	115.4166
<b>Total</b>	<b>0.0676</b>	<b>0.6799</b>	<b>0.5822</b>	<b>1.3000e-003</b>	<b>0.0754</b>	<b>0.0280</b>	<b>0.1034</b>	<b>0.0299</b>	<b>0.0258</b>	<b>0.0557</b>	<b>0.0000</b>	<b>114.4909</b>	<b>114.4909</b>	<b>0.0370</b>	<b>0.0000</b>	<b>115.4166</b>



## Vega 5 - Imperial County, Annual

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

## 3.3 Grading - 2024

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	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
<b>Total</b>	<b>9.8800e-003</b>	<b>5.5300e-003</b>	<b>0.0679</b>	<b>1.7000e-004</b>	<b>0.0202</b>	<b>1.0000e-004</b>	<b>0.0203</b>	<b>5.3700e-003</b>	<b>9.0000e-005</b>	<b>5.4500e-003</b>	<b>0.0000</b>	<b>15.3416</b>	<b>15.3416</b>	<b>4.8000e-004</b>	<b>4.8000e-004</b>	<b>15.4955</b>

## 3.4 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	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6056	257.6056	0.0635	0.0000	259.1921
<b>Total</b>	<b>0.1784</b>	<b>1.6354</b>	<b>1.8478</b>	<b>2.9900e-003</b>		<b>0.0819</b>	<b>0.0819</b>		<b>0.0766</b>	<b>0.0766</b>	<b>0.0000</b>	<b>257.6056</b>	<b>257.6056</b>	<b>0.0635</b>	<b>0.0000</b>	<b>259.1921</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2024****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	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
<b>Total</b>	<b>0.0468</b>	<b>0.0357</b>	<b>0.3226</b>	<b>8.4000e-004</b>	<b>0.0970</b>	<b>5.5000e-004</b>	<b>0.0976</b>	<b>0.0258</b>	<b>5.0000e-004</b>	<b>0.0263</b>	<b>0.0000</b>	<b>77.5000</b>	<b>77.5000</b>	<b>2.2800e-003</b>	<b>2.9900e-003</b>	<b>78.4491</b>

**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	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6053	257.6053	0.0635	0.0000	259.1918
<b>Total</b>	<b>0.1784</b>	<b>1.6354</b>	<b>1.8478</b>	<b>2.9900e-003</b>		<b>0.0819</b>	<b>0.0819</b>		<b>0.0766</b>	<b>0.0766</b>	<b>0.0000</b>	<b>257.6053</b>	<b>257.6053</b>	<b>0.0635</b>	<b>0.0000</b>	<b>259.1918</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 Building Construction - 2024****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	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
<b>Total</b>	<b>0.0468</b>	<b>0.0357</b>	<b>0.3226</b>	<b>8.4000e-004</b>	<b>0.0970</b>	<b>5.5000e-004</b>	<b>0.0976</b>	<b>0.0258</b>	<b>5.0000e-004</b>	<b>0.0263</b>	<b>0.0000</b>	<b>77.5000</b>	<b>77.5000</b>	<b>2.2800e-003</b>	<b>2.9900e-003</b>	<b>78.4491</b>

**3.5 Paving - 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	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2613	197.2613	0.0638	0.0000	198.8563
Paving	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>0.0973</b>	<b>0.9382</b>	<b>1.4406</b>	<b>2.2500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0425</b>	<b>0.0425</b>	<b>0.0000</b>	<b>197.2613</b>	<b>197.2613</b>	<b>0.0638</b>	<b>0.0000</b>	<b>198.8563</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2024****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
<b>Total</b>	<b>0.0463</b>	<b>0.0259</b>	<b>0.3185</b>	<b>7.8000e-004</b>	<b>0.0949</b>	<b>4.5000e-004</b>	<b>0.0953</b>	<b>0.0252</b>	<b>4.1000e-004</b>	<b>0.0256</b>	<b>0.0000</b>	<b>71.9593</b>	<b>71.9593</b>	<b>2.2600e-003</b>	<b>2.2300e-003</b>	<b>72.6814</b>

**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	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2611	197.2611	0.0638	0.0000	198.8561
Paving	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>0.0973</b>	<b>0.9382</b>	<b>1.4406</b>	<b>2.2500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0425</b>	<b>0.0425</b>	<b>0.0000</b>	<b>197.2611</b>	<b>197.2611</b>	<b>0.0638</b>	<b>0.0000</b>	<b>198.8561</b>

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 2024****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
<b>Total</b>	<b>0.0463</b>	<b>0.0259</b>	<b>0.3185</b>	<b>7.8000e-004</b>	<b>0.0949</b>	<b>4.5000e-004</b>	<b>0.0953</b>	<b>0.0252</b>	<b>4.1000e-004</b>	<b>0.0256</b>	<b>0.0000</b>	<b>71.9593</b>	<b>71.9593</b>	<b>2.2600e-003</b>	<b>2.2300e-003</b>	<b>72.6814</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Vega 5 - Imperial County, Annual

## 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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	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
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

## 5.0 Energy Detail

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

## 5.1 Mitigation Measures Energy

[illegible]

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

### Unmitigated

[illegible]

**Mitigated**

[illegible]



## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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**

## Vega 5 - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Unmitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-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	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
<b>Total</b>	<b>1.5273</b>	<b>3.0000e-005</b>	<b>3.7600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>7.3300e-003</b>	<b>7.3300e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.8000e-003</b>

## Vega 5 - Imperial County, Annual

**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	tons/yr										MT/yr					
Architectural Coating	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
<b>Total</b>	<b>1.5273</b>	<b>3.0000e-005</b>	<b>3.7600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>7.3300e-003</b>	<b>7.3300e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.8000e-003</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Vega 5 - Imperial County, Annual

**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			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
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>

## Vega 5 - Imperial County, Annual

**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			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
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****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

## Vega 5 - Imperial County, Annual

**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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
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**

Vega 5 - Imperial County, Annual

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

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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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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## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega 5****Imperial County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15	<b>Operational Year</b>	2025		
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only



## Vega 5 - Imperial County, Winter

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

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

## Vega 5 - Imperial County, Winter

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

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

**2.0 Emissions Summary****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,760.8759	6,760.8759	1.9700	0.0592	6,817.6753
Maximum	3.6801	32.6454	39.2032	0.0695	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,760.8759	6,760.8759	1.9700	0.0592	6,817.6753

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,760.8758	6,760.8758	1.9700	0.0592	6,817.6753
Maximum	3.6801	32.6454	39.2032	0.0695	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,760.8758	6,760.8758	1.9700	0.0592	6,817.6753

Vega 5 - Imperial 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	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

## Vega 5 - Imperial 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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
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>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>0.0956</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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
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>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>0.0956</b>

## Vega 5 - Imperial 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 & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 126****Acres of Paving: 410****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
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

## Vega 5 - Imperial County, Winter

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 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	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
<b>Total</b>	<b>2.2437</b>	<b>20.8781</b>	<b>19.7073</b>	<b>0.0388</b>		<b>0.9602</b>	<b>0.9602</b>		<b>0.8922</b>	<b>0.8922</b>		<b>3,747.4228</b>	<b>3,747.4228</b>	<b>1.0485</b>		<b>3,773.6345</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Demolition & Grubbing - 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	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
<b>Total</b>	<b>2.2437</b>	<b>20.8781</b>	<b>19.7073</b>	<b>0.0388</b>		<b>0.9602</b>	<b>0.9602</b>		<b>0.8922</b>	<b>0.8922</b>	<b>0.0000</b>	<b>3,747.4228</b>	<b>3,747.4228</b>	<b>1.0485</b>		<b>3,773.6345</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>



## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.748 7	6,009.748 7	1.9437		6,058.340 5
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.3354</b>	<b>10.5390</b>	<b>3.6538</b>	<b>1.2286</b>	<b>4.8823</b>		<b>6,009.748 7</b>	<b>6,009.748 7</b>	<b>1.9437</b>		<b>6,058.340 5</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.3 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					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.748 7	6,009.748 7	1.9437		6,058.340 5
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.3354</b>	<b>4.9248</b>	<b>1.4250</b>	<b>1.2286</b>	<b>2.6535</b>	<b>0.0000</b>	<b>6,009.748 7</b>	<b>6,009.748 7</b>	<b>1.9437</b>		<b>6,058.340 5</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
<b>Total</b>	<b>1.8116</b>	<b>16.6032</b>	<b>18.7590</b>	<b>0.0303</b>		<b>0.8319</b>	<b>0.8319</b>		<b>0.7780</b>	<b>0.7780</b>		<b>2,882.8590</b>	<b>2,882.8590</b>	<b>0.7102</b>		<b>2,900.6130</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	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4425</b>	<b>0.3702</b>	<b>2.9300</b>	<b>8.0200e-003</b>	<b>0.9920</b>	<b>5.5400e-003</b>	<b>0.9975</b>	<b>0.2636</b>	<b>5.1300e-003</b>	<b>0.2688</b>		<b>813.1955</b>	<b>813.1955</b>	<b>0.0266</b>	<b>0.0339</b>	<b>823.9477</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.4 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	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
<b>Total</b>	<b>1.8116</b>	<b>16.6032</b>	<b>18.7590</b>	<b>0.0303</b>		<b>0.8319</b>	<b>0.8319</b>		<b>0.7780</b>	<b>0.7780</b>	<b>0.0000</b>	<b>2,882.8590</b>	<b>2,882.8590</b>	<b>0.7102</b>		<b>2,900.6130</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	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4425</b>	<b>0.3702</b>	<b>2.9300</b>	<b>8.0200e-003</b>	<b>0.9920</b>	<b>5.5400e-003</b>	<b>0.9975</b>	<b>0.2636</b>	<b>5.1300e-003</b>	<b>0.2688</b>		<b>813.1955</b>	<b>813.1955</b>	<b>0.0266</b>	<b>0.0339</b>	<b>823.9477</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.5 Paving - 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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</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	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
<b>Total</b>	<b>0.4379</b>	<b>0.2685</b>	<b>2.8885</b>	<b>7.4300e-003</b>	<b>0.9699</b>	<b>4.5600e-003</b>	<b>0.9744</b>	<b>0.2573</b>	<b>4.1900e-003</b>	<b>0.2615</b>		<b>751.1272</b>	<b>751.1272</b>	<b>0.0263</b>	<b>0.0253</b>	<b>759.3348</b>

## Vega 5 - Imperial 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

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

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

## Vega 5 - Imperial County, Winter

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

**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



## Vega 5 - Imperial 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****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					
General Light Industry	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
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>

**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					
General Light Industry	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
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**

## Vega 5 - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

**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	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
<b>Total</b>	<b>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>		<b>0.0956</b>

## Vega 5 - Imperial 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	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
<b>Total</b>	<b>8.3709</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>0.0897</b>	<b>0.0897</b>	<b>2.3000e-004</b>		<b>0.0956</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Vega 5 - Imperial 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
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**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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## Vega Complex Operations - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega Complex Operations****Imperial County, Summer****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 &amp; 3 construcion workers

## Vega Complex Operations - Imperial County, Summer

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

Water And Wastewater - Water use from PD.

Solid Waste - No solid waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

**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

### Unmitigated Construction

[illegible]

### **Mitigated Construction**

[illegible][illegible]

## Vega Complex Operations - Imperial 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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
<b>Total</b>	<b>51.5354</b>	<b>6.0668</b>	<b>5.4354</b>	<b>0.0366</b>	<b>3.5405</b>	<b>0.4610</b>	<b>4.0015</b>	<b>0.3559</b>	<b>0.4610</b>	<b>0.8169</b>		<b>7,286.691 9</b>	<b>7,286.691 9</b>	<b>0.1415</b>	<b>0.1341</b>	<b>7,330.196 3</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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
<b>Total</b>	<b>51.5354</b>	<b>6.0668</b>	<b>5.4354</b>	<b>0.0366</b>	<b>3.5405</b>	<b>0.4610</b>	<b>4.0015</b>	<b>0.3559</b>	<b>0.4610</b>	<b>0.8169</b>		<b>7,286.691 9</b>	<b>7,286.691 9</b>	<b>0.1415</b>	<b>0.1341</b>	<b>7,330.196 3</b>



## Vega Complex Operations - Imperial 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	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 1953****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

**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
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

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

### Unmitigated Construction On-Site

[illegible]

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

### **Mitigated Construction On-Site**

[illegible]

### **Mitigated Construction Off-Site**

[illegible]

## Vega Complex Operations - Imperial 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	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Unmitigated	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

## 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 Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

## Vega Complex Operations - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

**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	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7

## Vega Complex Operations - Imperial 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 - 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 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
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
<b>Total</b>		<b>0.6658</b>	<b>6.0525</b>	<b>5.0841</b>	<b>0.0363</b>		<b>0.4600</b>	<b>0.4600</b>		<b>0.4600</b>	<b>0.4600</b>		<b>7,263.042 1</b>	<b>7,263.042 1</b>	<b>0.1392</b>	<b>0.1332</b>	<b>7,306.202 7</b>

**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 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
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
<b>Total</b>		<b>0.6658</b>	<b>6.0525</b>	<b>5.0841</b>	<b>0.0363</b>		<b>0.4600</b>	<b>0.4600</b>		<b>0.4600</b>	<b>0.4600</b>		<b>7,263.042 1</b>	<b>7,263.042 1</b>	<b>0.1392</b>	<b>0.1332</b>	<b>7,306.202 7</b>

**6.0 Area Detail**

## Vega Complex Operations - Imperial County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

**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	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
<b>Total</b>	<b>50.8593</b>	<b>2.2100e-003</b>	<b>0.2435</b>	<b>2.0000e-005</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>0.5228</b>	<b>0.5228</b>	<b>1.3600e-003</b>		<b>0.5569</b>

## Vega Complex Operations - Imperial 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	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
<b>Total</b>	<b>50.8593</b>	<b>2.2100e-003</b>	<b>0.2435</b>	<b>2.0000e-005</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>0.5228</b>	<b>0.5228</b>	<b>1.3600e-003</b>		<b>0.5569</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**



Vega Complex Operations - Imperial 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
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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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## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega Complex Operations  
Imperial County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 &amp; 3 construcion workers

## Vega Complex Operations - Imperial County, Annual

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

Water And Wastewater - Water use from PD.

Solid Waste - No solid waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

**2.0 Emissions Summary**

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## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
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## Vega Complex Operations - Imperial County, Annual

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

Highest

## 2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
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	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
Total	9.4028	1.1072	0.9662	6.6700e-003	0.6444	0.0841	0.7284	0.0648	0.0841	0.1488	0.0000	2,711.5310	2,711.5310	0.2848	0.0539	2,734.7149

## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
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	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
<b>Total</b>	<b>9.4028</b>	<b>1.1072</b>	<b>0.9662</b>	<b>6.6700e-003</b>	<b>0.6444</b>	<b>0.0841</b>	<b>0.7284</b>	<b>0.0648</b>	<b>0.0841</b>	<b>0.1488</b>	<b>0.0000</b>	<b>2,711.5310</b>	<b>2,711.5310</b>	<b>0.2848</b>	<b>0.0539</b>	<b>2,734.7149</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</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	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

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

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

### Acres of Paving: 1953

## OffRoad Equipment

### Trips and VMT

### 3.1 Mitigation Measures Construction

### Unmitigated Construction On-Site

[illegible]

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

### Unmitigated Construction Off-Site

### Mitigated Construction On-Site

[illegible]



## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****3.2 Architectural Coating - 2779****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<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>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Vega Complex Operations - Imperial County, Annual

## 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
Category	tons/yr										MT/yr					
Mitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Unmitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

## Vega Complex Operations - Imperial County, Annual

**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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
NaturalGas Mitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
NaturalGas Unmitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238

## Vega Complex Operations - Imperial County, Annual

**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****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other 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	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
<b>Total</b>		<b>0.1215</b>	<b>1.1046</b>	<b>0.9279</b>	<b>6.6300e-003</b>		<b>0.0840</b>	<b>0.0840</b>		<b>0.0840</b>	<b>0.0840</b>	<b>0.0000</b>	<b>1,202.4781</b>	<b>1,202.4781</b>	<b>0.0231</b>	<b>0.0221</b>	<b>1,209.6238</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other 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	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
<b>Total</b>		<b>0.1215</b>	<b>1.1046</b>	<b>0.9279</b>	<b>6.6300e-003</b>		<b>0.0840</b>	<b>0.0840</b>		<b>0.0840</b>	<b>0.0840</b>	<b>0.0000</b>	<b>1,202.4781</b>	<b>1,202.4781</b>	<b>0.0231</b>	<b>0.0221</b>	<b>1,209.6238</b>

## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
<b>Total</b>		<b>1,495.4807</b>	<b>0.2598</b>	<b>0.0315</b>	<b>1,511.3581</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
<b>Total</b>		<b>1,495.4807</b>	<b>0.2598</b>	<b>0.0315</b>	<b>1,511.3581</b>

**6.0 Area Detail**

## Vega Complex Operations - Imperial County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Unmitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455

**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	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
<b>Total</b>	<b>9.2797</b>	<b>2.0000e-004</b>	<b>0.0219</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.0427</b>	<b>0.0427</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>0.0455</b>

## Vega Complex Operations - Imperial County, Annual

**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	tons/yr										MT/yr					
Architectural Coating	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
<b>Total</b>	<b>9.2797</b>	<b>2.0000e-004</b>	<b>0.0219</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.0427</b>	<b>0.0427</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>0.0455</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Vega Complex Operations - Imperial County, Annual

**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	9.9856	1.7300e-003	2.1000e-004	10.0916
Unmitigated	9.9856	1.7300e-003	2.1000e-004	10.0916

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
<b>Total</b>		<b>9.9856</b>	<b>1.7300e-003</b>	<b>2.1000e-004</b>	<b>10.0916</b>



## Vega Complex Operations - Imperial County, Annual

**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 Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
<b>Total</b>		<b>9.9856</b>	<b>1.7300e-003</b>	<b>2.1000e-004</b>	<b>10.0916</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

## Vega Complex Operations - Imperial County, Annual

**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 Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	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 Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	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**

## Vega Complex Operations - Imperial County, Annual

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

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
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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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## Vega Complex Operations - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****Vega Complex Operations****Imperial County, Winter****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	3.4	<b>Precipitation Freq (Days)</b>	12
<b>Climate Zone</b>	15			<b>Operational Year</b>	2024
<b>Utility Company</b>	Imperial Irrigation District				
<b>CO2 Intensity (lb/MWhr)</b>	189.98	<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 - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers

## Vega Complex Operations - Imperial County, Winter

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

Water And Wastewater - Water use from PD.

Solid Waste - No solid waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

**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

### Unmitigated Construction

[illegible]

### **Mitigated Construction**

[illegible][illegible]

## Vega Complex Operations - Imperial 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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
<b>Total</b>	<b>51.5323</b>	<b>6.0681</b>	<b>5.4112</b>	<b>0.0365</b>	<b>3.5405</b>	<b>0.4610</b>	<b>4.0015</b>	<b>0.3559</b>	<b>0.4610</b>	<b>0.8169</b>		<b>7,283.922 2</b>	<b>7,283.922 2</b>	<b>0.1415</b>	<b>0.1342</b>	<b>7,327.436 0</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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
<b>Total</b>	<b>51.5323</b>	<b>6.0681</b>	<b>5.4112</b>	<b>0.0365</b>	<b>3.5405</b>	<b>0.4610</b>	<b>4.0015</b>	<b>0.3559</b>	<b>0.4610</b>	<b>0.8169</b>		<b>7,283.922 2</b>	<b>7,283.922 2</b>	<b>0.1415</b>	<b>0.1342</b>	<b>7,327.436 0</b>

## Vega Complex Operations - Imperial 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	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 1953****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

**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
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**



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

### Unmitigated Construction On-Site

[illegible]

### Unmitigated Construction Off-Site

[illegible]

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

### Mitigated Construction On-Site

[illegible]

## Vega Complex Operations - Imperial 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	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Unmitigated	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

**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 Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

## Vega Complex Operations - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

**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	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7

## Vega Complex Operations - Imperial 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****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 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
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
<b>Total</b>		<b>0.6658</b>	<b>6.0525</b>	<b>5.0841</b>	<b>0.0363</b>		<b>0.4600</b>	<b>0.4600</b>		<b>0.4600</b>	<b>0.4600</b>		<b>7,263.042 1</b>	<b>7,263.042 1</b>	<b>0.1392</b>	<b>0.1332</b>	<b>7,306.202 7</b>

**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 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
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.042 1	7,263.042 1	0.1392	0.1332	7,306.202 7
<b>Total</b>		<b>0.6658</b>	<b>6.0525</b>	<b>5.0841</b>	<b>0.0363</b>		<b>0.4600</b>	<b>0.4600</b>		<b>0.4600</b>	<b>0.4600</b>		<b>7,263.042 1</b>	<b>7,263.042 1</b>	<b>0.1392</b>	<b>0.1332</b>	<b>7,306.202 7</b>

**6.0 Area Detail**

## Vega Complex Operations - Imperial County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied****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	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

**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	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
<b>Total</b>	<b>50.8593</b>	<b>2.2100e-003</b>	<b>0.2435</b>	<b>2.0000e-005</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>0.5228</b>	<b>0.5228</b>	<b>1.3600e-003</b>		<b>0.5569</b>

## Vega Complex Operations - Imperial 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	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
<b>Total</b>	<b>50.8593</b>	<b>2.2100e-003</b>	<b>0.2435</b>	<b>2.0000e-005</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>8.7000e-004</b>	<b>8.7000e-004</b>		<b>0.5228</b>	<b>0.5228</b>	<b>1.3600e-003</b>		<b>0.5569</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

Vega Complex Operations - Imperial 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
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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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Renewable Energy Emissions Displacement

## Project Fossil Fuel Emissions Displacement

Megawatt Project <sup>1</sup>	Operational Time <sup>2</sup>	Annual Hours of Generation <sup>2</sup>	Annual Kilowatt Hours	Heat Rate <sup>3</sup>	Btu Displaced <sup>4</sup>
14,583 MW	50 Percent	4,380 Hours	63,873,540 Kilowatt Hours	9,313	594,854,278,020

<sup>1</sup> The Project is anticipated to generate 350 megawatts daily.  $350 \div 24 \text{ hours} = 14.583 \text{ MWHR facility}$

<sup>2</sup> The Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually).

<sup>3</sup> Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:

**\*\*Steam Boiler fueled by coal: 10,800 heat rate. \*\*Steam Boiler fueled by natural gas: 10,200 heat rate. \*\*Gas Turbine: 10,100 heat rate. \*\*Combined natural gas Boiler and Turbine: 7,640 heat rate.**

Omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate =  $9,313 [(10,100 + 10,200 + 7,640) \div 3 = 9,313]$

<sup>4</sup>  $63,873,540 \text{ annual kilowatt hours} \times 9,313 \text{ average heat rate of existing fossil fuel generators} = 594,854,278,020 \text{ Btu displaced from fossil fuel production.}$

Energy consumption in California is predominately derived from natural gas (34.23%). Coal constitutes 2.96% of all energy-based energy consumption in California. Renewable sources (not including hydroelectric generators) account for 31.70% and nuclear power accounts for 8.98%. 7.34% of the state's energy comes from unspecified nonrenewable sources and this percentage is added to the natural gas total for the purpose of this analysis. CEC. 2020. "2019 Total System Electric Generation". <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data>

**247,280,923,373 of the displaced BTU is displaced natural gas consumption and 17,250,774,063 of the displaced BTU is displaced coal.**

The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

Project Fossil Fuel Emissions Displacement

Fossil Fuel Emissions Displacement<sup>5</sup>

Emissions from Natural Gas Generation

247281	Displaced MMBtu	Tons Annually (Metric Tons for GHGs)						
NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
0.61	0.19	0.58	0.23	0.42	10,880.36	0.00	0.00	10880.36

Emissions from Coal Generation

719	Displaced tons of burned coal	Tons Annually (Metric Tons for GHGs)						
NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.31	0.18	0.03	0.02	0.20	1,736.58	0.01	0.01	1739.54

Total Emissions - Natural Gas and Coal

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.92	0.37	0.61	0.26	0.63	12616.94	0.01	0.01	12619.90

<sup>5</sup>Source: Displaced emissions calculated by ECORP Consulting using U.S. EPA’s AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.