Air Quality & Greenhouse Gas Emissions Assessment for the San Diego Clean Fuels Terminal

National City, California

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Attachment B -Health Risk Analysis Output Files

Attachment C -CalEEMod Output Files – Greenhouse Gas Emissions

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
AB	Assembly Bill
ASF	Age Sensitivity Factor
BNSF	Burlington Northern and Santa Fe
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAP	Climate Action Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERP	Community Emissions Reduction Plan
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
cy	Cubic yard(s)
DPM	Diesel Particulate Matter
EO	Executive Order
FAH	Fraction of time at home
GHG	Greenhouse Gas
GLC	Ground Level Concentration
HARP	Hot Spots Analysis & Reporting Program

Term	Description
HRA	Health Risk Assessment
IPCC	Intergovernmental Panel on Climate Change
MCAS	Maritime Clean Air Strategy
MEIR	Maximumly Exposed Individual Resident
MEIW	Maximumly Exposed Individual Worker
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NO_X	Nitric Oxides
O_3	Ozone
OEHHA	Office of Environment Health Hazard Assessment
PEX	Plastic Express
PM	Particulate Matter
PM_{10}	Coarse Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
ppm	Parts per Million
RAQS	Regional Air Quality Strategy
REL	Reference Exposure Level
ROG	reactive organic gases
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SoCAB	South Coast Air Basin
TAC	Toxic Air Contaminants
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VOC	Volatile Organic Compounds

1.0 INTRODUCTION

This report documents the results of an Air Quality, Health Risk, and Greenhouse Gas (GHG) Emissions Assessment completed for the San Diego Clean Fuels Terminal (Project), which includes infrastructure for the transloading of bio-diesel fuel, renewable diesel fuel and either ethanol or sustainable aviation fuel directly from rail cars into trucks on a five-acre site in National City (City). This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the San Diego Air Pollution Control District (SDAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants, health risk and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment. Significance levels derived from SDAPCD regulations are utilized to compare modeled Project emissions and determine significance.

1.1 Project Location and Description

The Project Site, located in National City, is an industrial property located between the existing buildings along Cleveland Avenue and the existing Burlington Northern and Santa Fe (BNSF) Railway tracks and between Civic Center Drive and W. 19th Street. The new National City Rail Terminal would add nine rail spurs and five fixed truck loading spots to transload bio-diesel fuel, renewable diesel fuel and either ethanol or sustainable aviation fuel directly from rail cars into trucks. The Site is generally bound by industrial uses to the east and south, a Costco Optical Laboratory to the west, and open space to the north.

Trucks would be loaded with either renewable diesel fuel, a combination of renewable diesel fuel and up to 20 percent bio-diesel fuel and either ethanol or sustainable aviation fuel. The fuel would then be delivered via truck to local retailers within a 35-mile radius. Each truck-loading spot would consist of a pump skid, controls, and aboveground piping between the belly of the rail cars and the bottom-loading port of the truck. Small amounts of lubricity, conductivity and red dye would be added in-line in the transload process depending on the order. Each spot would also provide a concrete pad and drain for containment of potential spills, which would be piped to a containment basin onsite.

Plastic Express (PEX, a commercial partner of USD-CF), would operate the facility. A total of 12 employees are anticipated to work at the terminal, which would operate 24 hours per day, 7 days per week. The employees support a schedule of three people per shift on three eight-hour shifts. A 40-foot trailer is proposed to be provided as an office onsite. A small kiosk would also be added to provide for driver check-in and to receive their bills of lading. Rail cars would be delivered to the terminal by BNSF Railway and placed on designated receiving tracks. Once rail cars have been delivered by BNSF Railway, the cars would be switched and spotted for transloading by PEX. Once emptied, cars would be switched to designated departure tracks, where BNSF Railway would remove cars as needed.

Construction of the Project is anticipated to commence in March 2023 and last approximately eight months. Construction activities associated with the Proposed Project would include the addition of nine rail spurs and five fixed truck loading spots. Multiple tanks would be installed with required secondary containment infrastructure. For the purpose this analysis, it is assumed that 30,000 cubic yards (cy) of

material would be removed and exported from the site, while another 30,000 cy of material would be brought onsite.

2.0 AIR QUALITY

2.1 Environmental 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 San Diego Air Basin (SDAB), which encompasses the Project Site, pursuant to the regulatory authority of the SDAPCD.

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 San Diego Air Basin

The Project Site is in National City which is in San Diego County (County). This region is within the SDAB. The topography in the SDAB varies greatly, from beaches on the west to mountains and desert on the east. Much of the topography in between consists of mesa tops intersected by canyon areas. The region's topography influences air flow and the dispersal and movement of pollutants in the basin. The mountains to the east prevent air flow mixing and prohibit dispersal of pollutants in that direction.

Regional climate and local meteorological conditions influence ambient air quality. The climate of the SDAB is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This cell, called the Pacific High-Pressure Cell (or Zone) influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The high-pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Subsidence inversions occur during the warmer months as descending air associated with the Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights, when air near the ground cools through radiation and the air aloft remains warm. The shallow inversion layer formed between these two air masses can also trap pollutants. During mild Santa Ana wind conditions, ambient air quality in the SDAB is affected by air quality in the South Coast Air Basin (the metropolitan areas of Los Angeles, Orange, San Bernardino, and Riverside counties). Air pollutants, specifically the components of smog, are transported to the County during relatively mild Santa Ana weather conditions. Winds blowing toward the southwest transport the polluted air from the South Coast Air Basin over the ocean. The sea breeze brings this air onshore into the County. When the transported smog is at ground level, the highest ozone (O_3) concentrations are measured at coastal and near-coastal monitoring sites. However, when the blown-in smog cloud is elevated, coastal sites may be passed over, and the transported O_3 is measured farther inland.

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 local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant in certain scenarios. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

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

Pollutant	Major Manufactured Sources	Human Health and 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, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	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_3	Formed by a chemical reaction between reactive organic gases (ROG) and nitrous oxides (N_2O) 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.
$PM_{2.5}$ & PM_{10}	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_2	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, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.

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

2.1.2.1 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 sever meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

2.1.2.2 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_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x 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_x 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 NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

2.1.2.3 Ozone

Ozone (O_3) is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOC) also known as reactive organic gases (ROG) and 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. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

2.1.2.4 Sulfur Dioxide

SO_2 is a colorless gas with a pungent odor, however sulfur dioxide can react with other particulates in the atmosphere to for particulates that contribute to the haze effect. SO_2 standards have been developed by the U.S. Environmental Protection Agency (USEPA) to regulate all sulfur oxides, however SO_2 is by far the most abundant sulfur oxide in the atmosphere. Currently, SO_2 is primarily a result of the burning of fossil fuels for power generation and other industrial sources. Modern regulations on diesel fuel have greatly

reduced the amount of SO_2 in the atmosphere and there are currently no areas in California that have levels of SO_2 that are not acceptable by state or federal standards.

2.1.2.5 Particulate Matter

Particulate matter 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 (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. 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. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NOx, sulfur oxides (SOx) and VOCs. $PM_{2.5}$ 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 $PM_{2.5}$ and 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 USEPA, some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. 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 PM_{10} and $PM_{2.5}$. 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 (TAC) 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. Carcinogenic TACs can also have noncarcinogenic health hazard levels.

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. Diesel engines also contribute to California's $PM_{2.5}$ air quality problems. 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.

2.1.4 Diesel Exhaust

Most recently, the California Air Resources Board (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 (i.e., heavy-duty, light-duty), engine operating conditions (i.e., idle, accelerate, decelerate), fuel formulations (i.e., high/low sulfur fuel), and the year of the manufacture 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.

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. The Sherman Elementary School (450 24th Street, San Diego) air quality monitoring station, located approximately 3.5 miles north of the Project Area, is the closest station to the site and monitors ambient concentrations of O_3 and $PM_{2.5}$. The Chula Vista (80 East J Street, Chula Vista) monitoring station, located approximately 4 miles southeast of the Project, monitors ambient concentrations of PM_{10}. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. 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 development area. Table 2-2 summarizes the published data concerning O_3, $PM_{10,}$ and $PM_{2.5}$ since 2018 from the Sherman Elementary School and Chula Vista monitoring stations for each year that the monitoring data is provided.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Scenario	2018	2019	2020
O_3 – Sherman Elementary School			
Max 1-hour concentration (ppm)	*	0.084	0.115
Max 8-hour concentration (ppm) (state/federal)	* / *	0.072 / 0.072	0.088 / 0.088
Number of days above 1-hour standard (state/federal)	* / *	0 / 0	0 / 2
Number of days above 8-hour standard (state/federal)	* / *	1 / 1	3 / 3

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Scenario	2018	2019	2020
PM_{10}			
Max 24-hour concentration (µg/m^3) (state/federal)	**45.0** / 45.0	**69.4** / 68.2	* / *
Annual Average (federal)	20.7	17.2	*
Number of days above 24-hour standard (state/federal)	* / 0	0 / *	**23** / *
$PM_{2.5}$ – Chula Vista			
Max 24-hour concentration (µg/m^3) (state/federal)	**41.9** / **41.9**	18.6 / 18.6	* / **46.7**
Number of days above federal 24-hour standard	**2.7**	0	**6.1**

Notes: *Insufficient data available
µg/m3 = micrograms per cubic meter; ppm = parts per million
(2) A bold value signifies that this category is above the applicable standard.
Sources: CARB 2021

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. Acceptable exceedances of the maximum value vary for the National Ambient Air Quality Standards (NAAQS) from fourth highest concentration for the 8-hour O_3 standard to 99th percentile to the SO_2 standard. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ 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 San Diego County portion of the SDAB, which encompasses the Project Site, is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the San Diego Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Unclassified/Attainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	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_3 standard and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$ (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 Project Area is surrounded by a Costco Optical Laboratory directly to the west, and industrial and retail on all other sides. The nearest sensitive receptor is McKinley Apartments, approximately 200 feet east of the Project. The nearest school is Kimball Elemental School located approximately 0.4 mile east of the Project.

2.2 Regulatory Framework

2.2.1 Federal

2.2.2 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_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

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 San Diego County portion of the SDAB for the criteria pollutants.

2.2.3 State

2.2.3.1 California Clean Air Act

The California Clean Air Act 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 (e.g., 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.

2.2.3.2 California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each 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. The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The County Regional Air Quality Strategy (RAQS) was initially adopted in 1991 and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, 2009 and most recently in 2016. The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SDAPCD has also developed the SDAB's input to the SIP, which is required under the federal CAA for pollutants that are designated as being in nonattainment of federal air quality standards for the basin.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth, to project future emissions and then establish the strategies necessary for the reduction of emissions through regulatory controls. The RAQS and the SIP utilized the *2021 Regional Plan* prepared by the SANDAG to project future growth in the air basin. The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The plan also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. Stationary source control measures are developed by the SDAPCD with the goal of setting limits on the

amounts of emissions from various types of sources and/or requiring specific emissions control technologies. In order to implement control measures, a permit system is used to impose controls on new and modified stationary sources and to ensure compliance with regulations by prescribing specific operation conditions or equipment on a source.

The SDAPCD adopted the *2020 Plan for Attaining the National Ozone Standards*, which was voted for approval by the District Board in early October 2020. The plan was submitted to CARB for their approval, and then submittal to the USEPA as a revision to the California SIP for attaining the O_3 standards. The *2020 Plan for Attaining the National Ozone Standards* demonstrates how the region will further reduce air pollutant emissions in order to attain the current NAAQS for O_3 by specified dates. SANDAG was also involved in the preparation of the *2020 Plan for Attaining the National Ozone Standards* through the collection and review of the data necessary to generate comprehensive emission inventories, including socio-economic projections and industrial and travel activities.

2.2.3.3 Tanner Air Toxics Act & Air Toxics "Hot Spot" 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 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.

2.2.4 Local

2.2.5 San Diego Air Pollution Control District

In addition to the RAQS, the SDAPCD has the primary responsibility for controlling emissions from construction activity throughout the SDAB. In December 2005, the SDAPCD adopted the *Measures to Reduce Particulate Matter* in the SDAB. This document identifies fugitive dust as the major source of directly emitted particulate matter in the SDAB, with mobile sources and residential wood combustion as minor contributors. Data on $PM_{2.5}$ source apportionment indicates that the main contributors to $PM_{2.5}$ in the SDAB are combustion organic carbon, and ammonium sulfate and ammonium nitrate from combustion sources. The main contributors to PM_{10} include resuspended soil and road dust from unpaved

and paved roads, construction and demolition sites, and mineral extraction and processing. Based on the report's evaluation of control measures recommended by CARB to reduce particulate matter emissions, the SDAPCD adopted Rule 55, the Fugitive Dust Rule, in June 2009. The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective track-out/carry-out and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Erosion control measures must be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations.

There are other SDAPCD 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. The following additional rules and regulations would apply to the construction of the Project:

- Rule 50 *Visible Emissions:* Establishes limits to the opacity of emissions within the SDAPCD.
- Rule 51 *Nuisance*: Prohibits emissions that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause injury or damage to business or property.
- Rule 52 *Particulate Matter*: Establishes limits to the discharge of any particulate matter from non-stationary sources.
- Rule 54 *Dust and Fumes*: Establishes limits to the amount of dust or fume discharged into the atmosphere in any single hour.
- Rule 67.0.1 *Architectural Coatings*: Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- Rule 67.7 *Cutback and Emulsified Asphalts:* Prohibits the sale and use of cutback and emulsified asphalt materials for the paving, construction or maintenance of parking lots, driveways, streets,

and highways which exceed the County standards for the percent by volume of VOC that evaporate into the atmosphere under temperate conditions.

2.2.6 AB-617 Portside Community

AB 617 was established to reduce exposure to pollution in communities with high emission source densities. The Project is located in the Portside Community identified as a community with a high amount of emission sources. The *Maritime Clean Air Strategy and Community Emissions Reduction Plan* discussed below were developed through AB 617 programs to assist the community reduce exposure to harmful emissions.

2.2.7 Maritime Clean Air Strategy

The Board of Port Commissioners adopted the Maritime Clean Air Strategy (MCAS) as a strategic planning document on October 12, 2021. The goals and objectives of the MCAS are aspirational, non-binding, and will be pursued through a variety of means. The MCAS vision statement is health equity for all. Per the document, the MCAS vision will be attained through strategic partnerships and various strategies determined by available technology. The majority of the strategies in the MCAS are focused on Port activities, however the general goals apply to all facilities in the Port district.

2.2.8 Community Emissions Reduction Plan

The Portside Community Emissions Reduction Plan (CERP) was adopted by both SDAPCD and CARB in 2021 to reduce the Portside community's exposure to emissions. The CERP is designed to guide the community and businesses to achieve emissions beyond regulatory standards. Project actions included in the CERP include utilizing local construction companies and cleaner off-road equipment. The goals of the CERP are to be adjusted as technology permits.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Threshold 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).

The significance criteria established by the applicable air quality management or air pollution control district (SDAPCD) may be relied upon to make the above determinations. According to the SDAPCD, an air quality impact is considered significant if the proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SDAPCD has established thresholds of significance for air quality for construction and operational activities of land use development projects, such as that proposed, as shown in Table 2-4.

Table 2-4. SDAPCD Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
Reactive Organic Gas	75	75
Carbon Monoxide	550	550
Nitrogen Oxide	250	250
Sulfur Oxide	250	250
Coarse Particulate Matter	100	100
Fine Particulate Matter	67	67

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.

In addition to the emission of criteria air pollutants, this Projects evaluates the health risk from operations of the Proposed Project. Specifically, the potential exposure of nearby existing residents to DPM primarily from heavy duty trucks.

The SDAPCD thresholds for what constitute an exposure of substantial air toxics are as follows.

- *Cancer Risk*: Emit carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million.
- *Non-Cancer Risk*: Emit toxic contaminants that exceed the maximum hazard quotient of 1 in one million.

Cancer risk is expressed in terms of expected incremental incidence per million population. The SDAPCD has established an incidence rate of 10 persons per million as the maximum acceptable incremental cancer risk due to TAC exposure. This threshold serves to determine whether a given project has a potentially significant development-specific and cumulative impact. The 10-in-one-million standard is a very health-protective significance threshold. A risk level of 10 in one million implies a likelihood that up to 10 persons out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess

cancer that is in addition to any cancer risk borne by a person not exposed to these air toxics. To put this risk in perspective, the risk of dying from accidental drowning is 1,000 in a million, which is 100 times more than the SDAPCD's threshold of 10 in one million.

The SDAPCD has also established non-carcinogenic risk parameters for use in HRAs. Noncarcinogenic risks are quantified by calculating a *hazard index*, expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at, or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures of less than 1.0 are considered less than significant.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the SDAPCD. 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 San Diego County and information provided by the Project proponent, such as the construction equipment and duration. Operational air pollutant emissions were calculated based on specific Project Site plans. Average daily vehicle trips were provided by KOA (2022). In addition to operational emissions calculated using CalEEMod, health conservative VOC/ROG emissions were calculated by the applicant for the fuel transfer process and included in the summary tables.

Additionally, offsite DPM concentrations resulting from on- and offsite Project operations within 1,000 feet of the Project were modeled. DPM Emissions were calculated using the CalEEMod program when possible and supplemental calculations prepared by ECORP Consulting, Inc., as presented in Attachment B. Emissions were quantified for onsite and offsite heavy duty truck traffic and switching engine operations. It should be noted that the existing rail traffic proposed to accommodate this Project has already been analyzed under a previous health risk assessment (ENVIRON International Corporation 2008). The Proposed Project would not result in an increase in existing rail traffic and therefore the changes to local DPM concentrations from locomotive and switching engine traffic in this analysis are due to a change in the location of operations.

AERMOD version 21112 with a unitized emission rate was used to determine the source receptor relationship for the onsite and offsite sources of DPM associated with Project operations. AERMOD is a steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. Hot Spots Analysis & Reporting Program (HARP2, CAPCOA 2022) implements the latest regulatory guidance to develop inputs to the USEPA AERMOD dispersion model for dispersion and as the inputs for calculations for the various health risk levels. The resultant concentration values at vicinity sensitive receptors were then used to calculate chronic and carcinogenic health risk using the

standardized equations contained in the *Office of Environment Health Hazard Assessment (OEHHA) Guidance Manual for Preparation of Health Risk Assessments* (2015).

2.3.3 Impact Analysis

2.3.3.1 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. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, forklifts, pavers), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. 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.

Construction-generated emissions associated the Proposed Project 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. Attachment A provides more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

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

Table 2-5. Construction-Related Criteria Air Pollutant Emissions

Construction Year	Pollutant (maximum pounds per day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction First Year	24.13	71.86	67.54	0.14	13.69	16.72
SDAPCD Potentially Significant Impact Threshold	*75*	*250*	*550*	*250*	*100*	*67*
Exceed SDAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Construction emissions taken from the season (summer or winter) with the highest output. Building construction, paving, and architectural coating assumed to occur simultaneously. Emission calculations account for the movement and export of 30,000 cubic yards of local soil and import of 30,000 cy of offsite material.

As shown in Table 2-5, emissions generated during Project construction would not exceed the SDAPCD's thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction

would not 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.

2.3.3.2 Project Operations Criteria Air Quality Emissions

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NO_X. Predicted maximum daily operational-generated emissions of criteria air pollutants for the Proposed Project are summarized in Table 2-7 and compared to the operational significance thresholds promulgated by the SDAPCD. Operational emissions were estimated using CalEEMod and estimated emissions for fuel transport fugitive leaks calculated by the applicant. EPA AP-42 Section 5.2 was used to estimate the emissions from the transloading process.

Table 2-6. Operational Criteria Air Pollutant Emissions

Emission Source	Pollutant					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer Emissions (Pounds per Day)						
CalEEMod Sources	7.17	1.23	10.12	0.02	2.36	0.64
Calculated Fugitive Evaporation	34.37	--	--	--	--	--
Project Emissions	41.54	1.23	10.12	0.02	2.36	0.64
Winter Emissions (Pounds per Day)						
CalEEMod Sources	7.14	1.32	10.36	0.02	2.36	0.64
Calculated Fugitive Evaporation	32.27	--	--	--	--	--
Project Emissions	39.41	1.32	10.36	0.02	2.36	0.64
Daily Significance Threshold	75	250	550	250	100	67
Exceed Daily Threshold?	No	No	No	No	No	No

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Operational emissions for the Proposed Project fugitive VOC/ROG emissions calculated by applicant.

As shown in Table 2-6, the Project's emissions would not exceed any SDAPCD thresholds for any criteria air pollutants during operations.

2.3.3.3 Project Consistency with Air Quality Planning

As part of its enforcement responsibilities, the USEPA requires each state with federal nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal air quality standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in federal nonattainment areas, using a combination of performance standards and market-based programs. The SDAPCD currently monitors implementation of the SIP in the

SDAB through the RAQS, which as previously described contains strategies and tactics to be applied in order to attain and maintain acceptable air quality in the SDAB. The RAQS is the applicable air quality plan for the proposed project. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. As previously described, the SDAPCD has prepared the *2020 Plan for Attaining the National Ozone Standards*.

Consistency with the RAQS is determined by two standards: (1) whether the Project would increase the frequency or severity of violations of existing air quality standards, contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as contained in the RAQS; and (2) whether the Proposed Project would exceed assumptions contained in the RAQS. The air quality emission projections and emission reduction strategies in the RAQS are based on information from CARB and SANDAG regarding mobile and area source emissions. CARB mobile source emissions projections and SANDAG growth projections are derived from population and vehicle use trends, and land use plans developed by the cities and the County of San Diego as part of their general plans. A project that proposes development consistent with the growth anticipated in a general plan would be consistent with the RAQS and *2020 Plan for Attaining the National Ozone Standards*. Projects that propose development that is greater than the population growth projections and land use intensity of the adopted local general plan warrants further analysis to determine consistency with the RAQS and the SIP.

As evaluated above, the Project would not exceed the short-term construction standards or long-term operational standards (see Tables 2-5 and 2-6) and in so doing would not violate any air quality standards. Therefore, the Project would not contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as contained in the RAQS. Thus, the Project would be consistent with the first criterion. Further, the Project proposal is consistent with the growth anticipated in the National City General Plan and therefore consistent with the second criterion.

The Project would not conflict with or obstruct implementation of the applicable air quality plan.

2.3.3.4 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 sensitive land use to the Project Site is the McKinley Apartments located around 200 feet east of the Project.

2.3.3.5 Health Risk Assessment

A HRA was performed to determine the health risk associated with operations of the Proposed Project. The HRA analyzed cancer and chronic non-cancer risk calculated for 70-, 30-, 25- and 9-year exposure scenarios for operational emissions. Per OEHHA guidance, the 25-year scenario was used to model the

health risk for workers at business locations and the 70-, 30-, and 9-year scenarios were used for residents in residential areas.

2.3.3.6 Operational Emission Sources

Operational emissions sources include onsite and offsite trucks and rail traffic. There is no increase in locomotive and switch engine trips associated with this Project, however there would be switching tracks in a new location. As the HRA is focused on local emissions the switching engine emissions were included in the HRA.

There are small amounts of TACs emitted from the additives used for renewable diesel including lubricity and red dye. These emissions include xylene and ethylbenzene. However, these emissions are well under their reportable levels. The VOC emissions from additives are less than a pound per year. Therefore, the effects of these TACs are considered negligible and they are not analyzed in this assessment. In addition, there are small amounts of TACs included with the gasoline residual associated with the denatured ethanol which are also under a pound per year of benzine and considered negligible. Emission calculations and operational data regarding these sources of TACs are included in Attachment A of this document.

2.3.3.7 Dispersion Modeling

The air dispersion modeling for the HRA was performed using the USEPA AERMOD Version 21112 dispersion model. AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. The USGS_NED_13_n33w118 file found at U.S. Geological Survey (USGS) was used for elevation data for all sources and receptors in the Project domain. All regulatory defaults were used for dispersion modeling.

AERMOD requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. Pre-processed meteorological data files provided by SDAPCD using USEPA's AERMET program, designed to create AERMOD input files for the Perkins Elementary School monitoring station, were selected as being the most representative meteorology based on proximity. The location of the monitoring station in respect to the Project Site is presented in Attachment B to this document. The unit emission rate of one gram per second was utilized in AERMOD to create plot files containing the dispersion factor (X/Q) for each source group. Emissions for each source group as described above were input into HARP2 to calculate the ground level concentrations (GLC) related to Project operations. AERMOD summary files, calculations and figures can be found in Attachment B.

A uniform grid was placed over the Project Area with a spacing of 50 meters encompassing a 2- x 2-kilometer grid and including receptors.

Risk during operations was also modeled utilizing worker factors and residential factors to find the Maximumly Exposed Individual Resident (MEIR), Maximumly Exposed Individual Worker (MEIW) and maximumly exposed school child. The chronic and carcinogenic health risk calculations are based on the standardized equations contained in the *OEHHA Guidance Manual* (2015) as implemented in CARB's

HARP2 program (CAPCOA 2022). The risk associated with traffic emissions related to Project operations was assessed as risk associated with future Project operations.

Based on the OEHHA methodology, the residential inhalation cancer risk from the annual average TAC concentrations is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor (ASF), the frequency of time spent at home, and the exposure duration divided by averaging time, to yield the excess cancer risk. These factors are discussed in more detail below. Cancer risk must be separately calculated for specified age groups, because of age differences in sensitivity to carcinogens and age differences in intake rates (per kilogram [kg] body weight). Separate risk estimates for these age groups provide a health-protective estimate of cancer risk by accounting for greater susceptibility in early life, including both age-related sensitivity and amount of exposure.

Exposure through inhalation (Dose-air) is a function the breathing rate, the exposure frequency, and the concentration of a substance in the air. For residential exposure, the breathing rates are determined for specific age groups, so Dose-air is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\textbf{Dose-air} = (C_{air} * \{BR/BW\} * A * EF * 10^{-6})$$

Where:

Dose-air	=	dose through inhalation (mg/kg/day)
C_{air}	=	air concentration (µg/m^3) from air dispersion model
{BR/BW}	=	daily breathing rate normalized to body weight (L/kg body weight – day) (361 L\kg BW-day for 3rd Trimester, 1,090 L/kg BW-day for 0<2 years, 861 L/kg BW-day for 2<9 years, 745 L/kg BW-day for 2<16 years, 335 L/kg BW-day for 16<30 years, and 290 L/kg BW-day 16<70 years)
A	=	Inhalation absorption factor (unitless [1])
EF	=	exposure frequency (unitless), days/365 days (0.96 [approximately 350 days per year])
10^{-6}	=	conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to consider the increased sensitivity to carcinogens during early-in-life exposure. In the absence of chemical-specific data, OEHHA recommends a default ASF of 10 for the third trimester to age 2 years, an ASF of 3 for ages 2 through 15 years to account for potential increased sensitivity to carcinogens during childhood and an ASF of 1 for ages 16 through 70 years.

Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to the facility's emissions are not occurring away from home. OEHHA recommends the following FAH values: from the third trimester to age <2 years, 85 percent of time is spent at home; from age 2 through <16 years, 72 percent of time is spent at home; from age 16 years and greater, 73 percent of time is spent at home.

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$\text{Riskinh-res} = (\text{Dose}_{air} * CPH * ASF * ED/AT * FAH)$$

Where:

$Risk_{inh\text{-}res}$ = residential inhalation cancer risk (potential chances per million)
$Dose_{air}$ = daily dose through inhalation (mg/kg-day)
CPF = inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
ASF = age sensitivity factor for a specified age group (unitless)
ED = exposure duration (in years) for a specified age group (0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70)
AT = averaging time of lifetime cancer risk (years)
FAH = fraction of time spent at home (unitless)

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the Reference Exposure Level (REL) for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The following equation was used to determine the non-cancer risk:

Hazard Quotient = Ci/RELi

Where:

Ci = Concentration in the air of substance i (annual average concentration in $\mu g/m^3$)
RELi = Chronic noncancer Reference Exposure Level for substance i ($\mu g/m^3$)

2.3.3.8 Cancer Risk

Operational cancer risk calculations for existing residential receptors are based on 70-, 30-, and 9-year exposure periods and worker receptors are based on a 25-year exposure period to for. the calculated cancer risk accounts for 350 days per year of exposure to residential receptors. While the average American spends 87 percent of their life indoors (USEPA 2001), neither the pollutant dispersion modeling nor the health risk calculations account for the reduced exposure structures provide. Instead, health risk calculations account for the equivalent exposure of continual outdoor living. The calculated carcinogenic risk at Project vicinity receptors is depicted in Table 2-7.

Table 2-7. Maximum Cancer Risk Summary

Maximum Exposure Scenario	Total Maximum Risk
Project Operations	
70-Year Exposure Resident	6.787
30-Year Exposure Resident	5.957
9-Year Exposure Resident	4.231
25-Year Exposure Worker	0.848
Significance Threshold	10
Exceed Threshold?	No

Source: ECORP Consulting 2022. See Attachment B.

As shown, Project operations do not result in a significant contribution to cancer risk in the community. These calculations do not account for any pollutant-reducing remedial components inherent to the Project or the Project site.

For operational emissions, the MEIR is located at the southwest corner of the McKinley Apartments on McKinley Avenue while the MEIW is located at the boat facility directly to the east of the Project Site. The offsite Point of Maximum Impact is located on West 18th Street directly to the east of the Project Site. All of the above listed points are presented in Attachment B of this document.

2.3.3.9 Non-Carcinogenic Hazards

In addition to cancer risk, the significance thresholds for TAC exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The potential for acute non-cancer hazards is evaluated by comparing the maximum short-term exposure level to an acute REL. RELs are designed to protect sensitive individuals within the population. The calculation of acute non-cancer impacts is like the procedure for chronic non-cancer impacts.

An acute or chronic hazard index of 1.0 is considered individually significant. The hazard index is calculated by dividing the acute or chronic exposure by the REL. The highest maximum chronic hazard indexes for residents and workers in the Proposed Project vicinity as a result of operations emission exposure is shown in Table 2-8. No acute health risk is associated with DPM under current OEHHA guidelines, thus acute health risk cannot be quantified for the Project.

Table 2-8. Maximum Non-Carcinogenic Health Risk Summary

Exposure Scenario	Chronic Hazard Values		
	Maximum Residential Hazard	**Maximum Worker Hazard**	**Maximum Sensitive Receptor Hazard**
Operation	0.002	0.002	0.0001
Significance Threshold	*1*	*1*	*1*
Exceed Threshold?	**No**	**No**	**No**

Source: ECORP Consulting 2022. See Attachment B.

As shown in Table 2-8, impacts related to non-cancer risk (chronic hazard index) because of the Project are less than significant.

2.3.3.10 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 SDAB 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) *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 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 South Coast Air Basin, 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. Current CO concentrations in the South Coast Air Basin (SoCAB) are much lower than the measurements mentioned in this example and SDAB CO measurements are lower than those see in the SoCAB.

According to the Traffic Impact Study prepared for the Project (KOA 2022), the Project would result in approximately 555 passenger equivalent trips per day. Thus, the Proposed Project would not generate traffic volumes at any intersection to result in a CO exceedance at any intersection.

2.3.3.11 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 can 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.

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 construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

According to the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), the sources of the most common operational odor complaints received by local air districts include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The Project does not contain any of the land uses identified as typically associated with emissions of objectionable 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 carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). 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_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e 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_2 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_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 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_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 3-1. Summary of Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 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_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	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_4 to the atmosphere. Natural sources of CH4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.[2]
N_2O	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_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O 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_2O is approximately 120 years.[3]

Sources: (1) USEPA 2016a; (2) USEPA 2016b; (3) 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 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the State. When emissions from extracting, refining, and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO_2e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO_2e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the State's GHG emissions in 2019, accounting for 21 percent (CARB 2021b).

3.2 Regulatory Framework

3.2.1 State

3.2.1.1 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.

3.2.1.2 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 required 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 outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

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.

3.2.1.3 Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Edmund "Jerry" 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.

3.2.1.4 Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

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

2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards includes the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen Building Standard (CalGreen) and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update. CalGreen contains voluntary *Tier 1* and *Tier 2* standards that are not mandatory statewide but could be required by a city or county. These are *reach* standards that can be adopted by local jurisdictions and may be incorporated as mandatory standards in future code cycles

3.2.2 Local

3.2.2.1 National City General Plan

National City adopted the General Plan in 2011. The Land Use and Community Character Planning Element of the General Plan contains statistics regarding existing and planned land uses. The Community Planning Element serves as the foundational guiding document regarding baseline conditions for the Climate Action Plan (CAP).

The CAP acts to support implementation of the General Plan through support for continued incremental changes to the urban land use form, providing greater transportation choices, and transforming the way energy is used and produced. Further, the CAP complements the General Plan policies to reduce GHG emissions with quantified benchmarks for success.

The Conservation and Sustainability Element of the General Plan includes goals related to reducing GHG emissions with a focus on the two largest emission sources: the built environment and vehicles. The Conservation and Sustainability Element contains numerous strategies the City aims to use to promote sustainability and conservation.

3.2.2.2 National City Climate Action Plan

As part of the CAP the calendar year 2005 GHG emissions in National City were calculated using the International Council on Environmental Initiatives Cities for Climate Protection inventory methodology. In 2005, operations within the City emitted 550,714 gross metric tons of CO_2e including from imported electricity.

National City prepared a CAP in 2011 to address climate change at a local level. As part of the CAP the City implemented an emissions target of 15 percent reduction from 2005 levels by 2020. Per subsequent emissions inventories, the City has achieved the 2020 target. The plan also lists current activities conducted in the City to reduce emissions below *business-as-usual* levels including equipment replacement and efficient vehicle pools.

3.2.3 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 emissions 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 Section 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 consider 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 Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 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 Section 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 Section 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. Neither National City nor the SDAPCD identify significance thresholds. 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)). Thus, in the absence of any GHG emissions significance thresholds the projected emissions are compared to the GHG thresholds recommended by the South Coast Air Quality Management District (SCAQMD), the air pollution control officer for the South Coast Air Basin. The SCAQMD threshold of 3,000 metric tons of CO_2e annually is considered appropriate for the purposes of this analysis due to the proximities of the South Coast Air Basin and San Diego County. The 3,000 metric tons of CO_2e per year threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 3,000 metric tons of CO_2e per year value is typically used in defining small projects that are considered less than significant because it represents less than one

percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. Land use projects above the 3,000 metric tons of CO_2e per year level would fall within the percentage of largest projects that are worth mitigating without wasting scarce financial, governmental, physical, and social resources.

In Center for Biological Diversity v. Department of Fish and Wildlife (2015) 62 Cal. 4th 2014, 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.)

In addition to a comparison of Project emissions against the SCAQMD significance threshold, the Project is also evaluated for consistency with the National City CAP.

3.3 Greenhouse Gas Calculation Methodology

GHG-related impacts were assessed in accordance with methodologies recommended in the National City CAP. While GHG emission quantification is not required by the City, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0 for disclosure purposes. 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 GHG emissions were primarily calculated using CalEEMod model defaults for San Diego County. Operational GHG emissions were based on the Project Site Plans. Average daily vehicle trips provided by KOA (2022).

3.4 Greenhouse Gas Impact Analysis

3.4.1.1 Project Greenhous Gas Emissions

Construction

Construction-related activities that would generate GHG emissions include on- and off-road equipment traffic. 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.

Table 3-2. Construction Related Greenhouse Gas Emissions

Description	CO_2e Emissions (Metric Tons/Year)
Construction	356
Total Construction Emissions	**356**
Significance Threshold	**3,000**

Sources: CalEEMod version 2020.4.0. Refer to Attachment C for Model Data Outputs

As shown in Table 3-2, Project construction would result in the generation of approximately 356 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions will cease.

Operations

Operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project are identified in Table 3-3.

Table 3-3. Operational-Related Greenhouse Gas Emissions

Description	CO_2e Emissions (Metric Tons/Year)
Area Source Emissions	0
Energy Emissions	210
Mobile Source Emissions	370
Waste Emissions	103
Water Emissions	230
Project Operations Total	**913**
Significance Threshold	*3,000*

Sources: CalEEMod.2020.4.0
Notes: Emission projections are predominantly based on CalEEMod model defaults for San Diego County. Average daily vehicle trips provided by KOA (2022).

As shown in Table 3-3, operational-generated emissions would total to approximately 913 metric tons of CO_2e, which would not exceed the numeric bright-line threshold of 3,000 metric tons of CO_2e annually. This significance threshold was developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. The 3,000 metric tons of CO_2e per year value represents less than one percent of future 2050 statewide GHG emissions target.

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

As previously described, National City prepared a CAP in 2011 to address climate change at a local level. The CAP is a strategic planning document that identifies sources of GHG emissions within the City's boundaries, presents current and future emission estimates, identifies a GHG reduction target for future years, and presents policy provisions to reduce emissions. As part of the CAP the City implemented an emissions target of 15 percent reduction from 2005 levels by 2020. Per subsequent emissions inventories, the City has achieved the 2020 target. The plan also lists current activities conducted in the City to continue to reduce emissions.

The GHG reduction strategies in the CAP builds on the inventory results. Both the existing and the projected GHG inventories in the CAP were derived based on the land use designations defined in the City General Plan. The Proposed Project is consistent with the land use designation and development density presented in the General Plan. The Project is not proposing to amend the City General Plan and is consistent with all land use designations applied to the Site. Since the Project is consistent with the General Plan, it is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan, the Project would neither conflict with the land use assumptions nor exceed the population or job growth projections used by the City to develop the CAP.

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LIST OF ATTACHMENTS

Attachment A - CalEEMod Output Files – Criteria Air Pollutants and Operational Permitting Calculations

Attachment B -Health Risk Analysis Output Files

Attachment C -CalEEMod Output Files – Greenhouse Gas Emissions

ATTACHMENT A

CalEEMod Output Files – Criteria Air Pollutants and Operational Permitting Calculations

National City Transloading - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

National City Transloading

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	218.00	1000sqft	5.00	218,000.00	15

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Not a lot of structures, primaraly tanks and pads.

Construction Phase - Vacant lot; no demolition needed.

Off-road Equipment - No demolition needed.

Grading - Assumes a 5 acre lot.

Architectural Coating - Rule 67 Paint
Building Area adjusted per applicant information

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	109,000.00	50,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	327,000.00	50,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblArchitecturalCoating	EF_Parking	250.00	50.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	230.00	110.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	8.00	42.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	5.00	42.00
tblGrading	AcresOfGrading	42.00	5.00
tblGrading	AcresOfGrading	63.00	5.00
tblLandUse	Population	0.00	15.00

2.0 Emissions Summary

National City Transloading - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	24.0951	71.7582	67.7191	0.1358	25.9237	3.2638	29.1874	13.6935	3.0251	16.7186	0.0000	13,208.7078	13,208.7078	3.3701	0.1450	13,336.1804
Maximum	**24.0951**	**71.7582**	**67.7191**	**0.1358**	**25.9237**	**3.2638**	**29.1874**	**13.6935**	**3.0251**	**16.7186**	**0.0000**	**13,208.7078**	**13,208.7078**	**3.3701**	**0.1450**	**13,336.1804**

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	24.0951	71.7582	67.7191	0.1358	25.9237	3.2638	29.1874	13.6935	3.0251	16.7186	0.0000	13,208.7078	13,208.7078	3.3701	0.1450	13,336.1804
Maximum	**24.0951**	**71.7582**	**67.7191**	**0.1358**	**25.9237**	**3.2638**	**29.1874**	**13.6935**	**3.0251**	**16.7186**	**0.0000**	**13,208.7078**	**13,208.7078**	**3.3701**	**0.1450**	**13,336.1804**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Energy	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Mobile	1.1053	1.1308	10.0204	0.0222	2.3313	0.0167	2.3479	0.6210	0.0155	0.6365		2,294.8395	2,294.8395	0.1489	0.0944	2,326.6933
Total	**7.1674**	**1.2276**	**10.1238**	**0.0227**	**2.3313**	**0.0241**	**2.3553**	**0.6210**	**0.0230**	**0.6440**		**2,410.8260**	**2,410.8260**	**0.1512**	**0.0965**	**2,443.3718**

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	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Energy	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Mobile	1.1053	1.1308	10.0204	0.0222	2.3313	0.0167	2.3479	0.6210	0.0155	0.6365		2,294.8395	2,294.8395	0.1489	0.0944	2,326.6933
Total	**7.1674**	**1.2276**	**10.1238**	**0.0227**	**2.3313**	**0.0241**	**2.3553**	**0.6210**	**0.0230**	**0.6440**		**2,410.8260**	**2,410.8260**	**0.1512**	**0.0965**	**2,443.3718**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	2/28/2023	5	0	No demo
2	Site Preparation	Site Preparation	3/1/2023	4/27/2023	5	42	
3	Grading	Grading	3/1/2023	4/27/2023	5	42	
4	Building Construction	Building Construction	3/1/2023	8/1/2023	5	110	
5	Paving	Paving	3/1/2023	3/29/2023	5	21	
6	Architectural Coating	Architectural Coating	3/1/2023	3/29/2023	5	21	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 50,000; Non-Residential Outdoor: 50,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	3	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	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	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
Demolition			0.00	0.00	10.80	7.30				
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

National City Transloading - San Diego County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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					18.1925	0.0000	18.1925	9.9443	0.0000	9.9443			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.1925**	**1.2660**	**19.4585**	**9.9443**	**1.1647**	**11.1091**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	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	0.0492	0.0306	0.4332	1.3100e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		133.7136	133.7136	3.5800e-003	3.2900e-003	134.7841
Total	**0.0492**	**0.0306**	**0.4332**	**1.3100e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**133.7136**	**133.7136**	**3.5800e-003**	**3.2900e-003**	**134.7841**

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					18.1925	0.0000	18.1925	9.9443	0.0000	9.9443			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.1925**	**1.2660**	**19.4585**	**9.9443**	**1.1647**	**11.1091**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	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	0.0492	0.0306	0.4332	1.3100e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		133.7136	133.7136	3.5800e-003	3.2900e-003	134.7841
Total	**0.0492**	**0.0306**	**0.4332**	**1.3100e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**133.7136**	**133.7136**	**3.5800e-003**	**3.2900e-003**	**134.7841**

3.4 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					6.1483	0.0000	6.1483	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1483**	**0.7749**	**6.9233**	**3.3239**	**0.7129**	**4.0368**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	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	0.0410	0.0255	0.3610	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		111.4280	111.4280	2.9800e-003	2.7400e-003	112.3201
Total	**0.0410**	**0.0255**	**0.3610**	**1.0900e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**111.4280**	**111.4280**	**2.9800e-003**	**2.7400e-003**	**112.3201**

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					6.1483	0.0000	6.1483	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1483**	**0.7749**	**6.9233**	**3.3239**	**0.7129**	**4.0368**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	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	0.0410	0.0255	0.3610	1.0900e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		111.4280	111.4280	2.9800e-003	2.7400e-003	112.3201
Total	**0.0410**	**0.0255**	**0.3610**	**1.0900e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**111.4280**	**111.4280**	**2.9800e-003**	**2.7400e-003**	**112.3201**

3.5 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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	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	0.0430	1.5432	0.5561	7.3700e-003	0.2438	9.4000e-003	0.2532	0.0702	8.9900e-003	0.0792		795.7690	795.7690	0.0241	0.1152	830.7079
Worker	0.2516	0.1562	2.2139	6.6800e-003	0.7558	4.0600e-003	0.7598	0.2005	3.7400e-003	0.2042		683.4253	683.4253	0.0183	0.0168	688.8967
Total	**0.2946**	**1.6995**	**2.7700**	**0.0141**	**0.9996**	**0.0135**	**1.0130**	**0.2707**	**0.0127**	**0.2834**		**1,479.1943**	**1,479.1943**	**0.0424**	**0.1321**	**1,519.6046**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	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	0.0430	1.5432	0.5561	7.3700e-003	0.2438	9.4000e-003	0.2532	0.0702	8.9900e-003	0.0792		795.7690	795.7690	0.0241	0.1152	830.7079
Worker	0.2516	0.1562	2.2139	6.6800e-003	0.7558	4.0600e-003	0.7598	0.2005	3.7400e-003	0.2042		683.4253	683.4253	0.0183	0.0168	688.8967
Total	**0.2946**	**1.6995**	**2.7700**	**0.0141**	**0.9996**	**0.0135**	**1.0130**	**0.2707**	**0.0127**	**0.2834**		**1,479.1943**	**1,479.1943**	**0.0424**	**0.1321**	**1,519.6046**

3.6 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 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	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	0.0547	0.0340	0.4813	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		148.5707	148.5707	3.9800e-003	3.6600e-003	149.7602
Total	**0.0547**	**0.0340**	**0.4813**	**1.4500e-003**	**0.1643**	**8.8000e-004**	**0.1652**	**0.0436**	**8.1000e-004**	**0.0444**		**148.5707**	**148.5707**	**3.9800e-003**	**3.6600e-003**	**149.7602**

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 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	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	0.0547	0.0340	0.4813	1.4500e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		148.5707	148.5707	3.9800e-003	3.6600e-003	149.7602
Total	**0.0547**	**0.0340**	**0.4813**	**1.4500e-003**	**0.1643**	**8.8000e-004**	**0.1652**	**0.0436**	**8.1000e-004**	**0.0444**		**148.5707**	**148.5707**	**3.9800e-003**	**3.6600e-003**	**149.7602**

3.7 Architectural Coating - 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					
Archit. Coating	16.5536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**16.7452**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	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	0.0492	0.0306	0.4332	1.3100e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		133.7136	133.7136	3.5800e-003	3.2900e-003	134.7841
Total	**0.0492**	**0.0306**	**0.4332**	**1.3100e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**133.7136**	**133.7136**	**3.5800e-003**	**3.2900e-003**	**134.7841**

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					
Archit. Coating	16.5536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**16.7452**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	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	0.0492	0.0306	0.4332	1.3100e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		133.7136	133.7136	3.5800e-003	3.2900e-003	134.7841
Total	**0.0492**	**0.0306**	**0.4332**	**1.3100e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**133.7136**	**133.7136**	**3.5800e-003**	**3.2900e-003**	**134.7841**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1053	1.1308	10.0204	0.0222	2.3313	0.0167	2.3479	0.6210	0.0155	0.6365		2,294.8395	2,294.8395	0.1489	0.0944	2,326.6933
Unmitigated	1.1053	1.1308	10.0204	0.0222	2.3313	0.0167	2.3479	0.6210	0.0155	0.6365		2,294.8395	2,294.8395	0.1489	0.0944	2,326.6933

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-Rail	379.32	379.32	379.32	1,107,429	1,107,429
Total	379.32	379.32	379.32	1,107,429	1,107,429

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
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	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
Unrefrigerated Warehouse-Rail	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
NaturalGas Unmitigated	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277

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					
Unrefrigerated Warehouse-Rail	985.479	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Total		**0.0106**	**0.0966**	**0.0812**	**5.8000e-004**		**7.3400e-003**	**7.3400e-003**		**7.3400e-003**	**7.3400e-003**		**115.9388**	**115.9388**	**2.2200e-003**	**2.1300e-003**	**116.6277**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-Rail	0.985479	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Total		**0.0106**	**0.0966**	**0.0812**	**5.8000e-004**		**7.3400e-003**	**7.3400e-003**		**7.3400e-003**	**7.3400e-003**		**115.9388**	**115.9388**	**2.2200e-003**	**2.1300e-003**	**116.6277**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Unmitigated	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0500e-003	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Total	**6.0514**	**2.0000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0477**	**0.0477**	**1.2000e-004**		**0.0508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.3842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0500e-003	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Total	**6.0514**	**2.0000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0477**	**0.0477**	**1.2000e-004**		**0.0508**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

National City Transloading - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

National City Transloading

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	218.00	1000sqft	5.00	218,000.00	15

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Not a lot of structures, primaraly tanks and pads.

Construction Phase - Vacant lot; no demolition needed.

Off-road Equipment - No demolition needed.

Grading - Assumes a 5 acre lot.

Architectural Coating - Rule 67 Paint
Building Area adjusted per applicant information

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	109,000.00	50,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	327,000.00	50,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblArchitecturalCoating	EF_Parking	250.00	50.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	230.00	110.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	8.00	42.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	5.00	42.00
tblGrading	AcresOfGrading	42.00	5.00
tblGrading	AcresOfGrading	63.00	5.00
tblLandUse	Population	0.00	15.00

2.0 Emissions Summary

National City Transloading - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	24.1315	71.8577	67.5407	0.1351	25.9237	3.2638	29.1875	13.6935	3.0251	16.7186	0.0000	13,143.2810	13,143.2810	3.3721	0.1477	13,271.6081
Maximum	**24.1315**	**71.8577**	**67.5407**	**0.1351**	**25.9237**	**3.2638**	**29.1875**	**13.6935**	**3.0251**	**16.7186**	**0.0000**	**13,143.2810**	**13,143.2810**	**3.3721**	**0.1477**	**13,271.6081**

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	24.1315	71.8577	67.5407	0.1351	25.9237	3.2638	29.1875	13.6935	3.0251	16.7186	0.0000	13,143.2810	13,143.2810	3.3721	0.1477	13,271.6081
Maximum	**24.1315**	**71.8577**	**67.5407**	**0.1351**	**25.9237**	**3.2638**	**29.1875**	**13.6935**	**3.0251**	**16.7186**	**0.0000**	**13,143.2810**	**13,143.2810**	**3.3721**	**0.1477**	**13,271.6081**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Energy	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Mobile	1.0815	1.2254	10.2576	0.0212	2.3313	0.0167	2.3479	0.6210	0.0155	0.6366		2,194.8305	2,194.8305	0.1573	0.0994	2,228.3960
Total	**7.1435**	**1.3222**	**10.3610**	**0.0218**	**2.3313**	**0.0241**	**2.3554**	**0.6210**	**0.0230**	**0.6440**		**2,310.8170**	**2,310.8170**	**0.1596**	**0.1016**	**2,345.0746**

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	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Energy	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Mobile	1.0815	1.2254	10.2576	0.0212	2.3313	0.0167	2.3479	0.6210	0.0155	0.6366		2,194.8305	2,194.8305	0.1573	0.0994	2,228.3960
Total	**7.1435**	**1.3222**	**10.3610**	**0.0218**	**2.3313**	**0.0241**	**2.3554**	**0.6210**	**0.0230**	**0.6440**		**2,310.8170**	**2,310.8170**	**0.1596**	**0.1016**	**2,345.0746**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	2/28/2023	5	0	No demo
2	Site Preparation	Site Preparation	3/1/2023	4/27/2023	5	42	
3	Grading	Grading	3/1/2023	4/27/2023	5	42	
4	Building Construction	Building Construction	3/1/2023	8/1/2023	5	110	
5	Paving	Paving	3/1/2023	3/29/2023	5	21	
6	Architectural Coating	Architectural Coating	3/1/2023	3/29/2023	5	21	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 50,000; Non-Residential Outdoor: 50,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	3	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	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	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
Demolition			0.00	0.00	10.80	7.30				
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	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 Applied

3.2 Demolition - 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	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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	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	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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					18.1925	0.0000	18.1925	9.9443	0.0000	9.9443			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.1925**	**1.2660**	**19.4585**	**9.9443**	**1.1647**	**11.1091**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	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	0.0534	0.0344	0.4116	1.2300e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		126.3637	126.3637	3.8100e-003	3.5600e-003	127.5200
Total	**0.0534**	**0.0344**	**0.4116**	**1.2300e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**126.3637**	**126.3637**	**3.8100e-003**	**3.5600e-003**	**127.5200**

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					18.1925	0.0000	18.1925	9.9443	0.0000	9.9443			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.1925**	**1.2660**	**19.4585**	**9.9443**	**1.1647**	**11.1091**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	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	0.0534	0.0344	0.4116	1.2300e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		126.3637	126.3637	3.8100e-003	3.5600e-003	127.5200
Total	**0.0534**	**0.0344**	**0.4116**	**1.2300e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**126.3637**	**126.3637**	**3.8100e-003**	**3.5600e-003**	**127.5200**

3.4 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					6.1483	0.0000	6.1483	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1483**	**0.7749**	**6.9233**	**3.3239**	**0.7129**	**4.0368**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	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	0.0445	0.0287	0.3430	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		105.3031	105.3031	3.1800e-003	2.9700e-003	106.2666
Total	**0.0445**	**0.0287**	**0.3430**	**1.0300e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**105.3031**	**105.3031**	**3.1800e-003**	**2.9700e-003**	**106.2666**

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					6.1483	0.0000	6.1483	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**6.1483**	**0.7749**	**6.9233**	**3.3239**	**0.7129**	**4.0368**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	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	0.0445	0.0287	0.3430	1.0300e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		105.3031	105.3031	3.1800e-003	2.9700e-003	106.2666
Total	**0.0445**	**0.0287**	**0.3430**	**1.0300e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**105.3031**	**105.3031**	**3.1800e-003**	**2.9700e-003**	**106.2666**

3.5 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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	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	0.0418	1.6082	0.5729	7.3800e-003	0.2438	9.4500e-003	0.2533	0.0702	9.0400e-003	0.0792		796.9004	796.9004	0.0240	0.1155	831.9167
Worker	0.2728	0.1757	2.1037	6.3100e-003	0.7558	4.0600e-003	0.7598	0.2005	3.7400e-003	0.2042		645.8587	645.8587	0.0195	0.0182	651.7687
Total	**0.3146**	**1.7839**	**2.6766**	**0.0137**	**0.9996**	**0.0135**	**1.0131**	**0.2707**	**0.0128**	**0.2834**		**1,442.7591**	**1,442.7591**	**0.0435**	**0.1337**	**1,483.6854**

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	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	0.0418	1.6082	0.5729	7.3800e-003	0.2438	9.4500e-003	0.2533	0.0702	9.0400e-003	0.0792		796.9004	796.9004	0.0240	0.1155	831.9167
Worker	0.2728	0.1757	2.1037	6.3100e-003	0.7558	4.0600e-003	0.7598	0.2005	3.7400e-003	0.2042		645.8587	645.8587	0.0195	0.0182	651.7687
Total	**0.3146**	**1.7839**	**2.6766**	**0.0137**	**0.9996**	**0.0135**	**1.0131**	**0.2707**	**0.0128**	**0.2834**		**1,442.7591**	**1,442.7591**	**0.0435**	**0.1337**	**1,483.6854**

3.6 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 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	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	0.0593	0.0382	0.4573	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		140.4041	140.4041	4.2400e-003	3.9600e-003	141.6889
Total	**0.0593**	**0.0382**	**0.4573**	**1.3700e-003**	**0.1643**	**8.8000e-004**	**0.1652**	**0.0436**	**8.1000e-004**	**0.0444**		**140.4041**	**140.4041**	**4.2400e-003**	**3.9600e-003**	**141.6889**

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 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	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	0.0593	0.0382	0.4573	1.3700e-003	0.1643	8.8000e-004	0.1652	0.0436	8.1000e-004	0.0444		140.4041	140.4041	4.2400e-003	3.9600e-003	141.6889
Total	**0.0593**	**0.0382**	**0.4573**	**1.3700e-003**	**0.1643**	**8.8000e-004**	**0.1652**	**0.0436**	**8.1000e-004**	**0.0444**		**140.4041**	**140.4041**	**4.2400e-003**	**3.9600e-003**	**141.6889**

3.7 Architectural Coating - 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					
Archit. Coating	16.5536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**16.7452**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	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	0.0534	0.0344	0.4116	1.2300e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		126.3637	126.3637	3.8100e-003	3.5600e-003	127.5200
Total	**0.0534**	**0.0344**	**0.4116**	**1.2300e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**126.3637**	**126.3637**	**3.8100e-003**	**3.5600e-003**	**127.5200**

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					
Archit. Coating	16.5536					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**16.7452**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	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	0.0534	0.0344	0.4116	1.2300e-003	0.1479	8.0000e-004	0.1487	0.0392	7.3000e-004	0.0400		126.3637	126.3637	3.8100e-003	3.5600e-003	127.5200
Total	**0.0534**	**0.0344**	**0.4116**	**1.2300e-003**	**0.1479**	**8.0000e-004**	**0.1487**	**0.0392**	**7.3000e-004**	**0.0400**		**126.3637**	**126.3637**	**3.8100e-003**	**3.5600e-003**	**127.5200**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.0815	1.2254	10.2576	0.0212	2.3313	0.0167	2.3479	0.6210	0.0155	0.6366		2,194.8305	2,194.8305	0.1573	0.0994	2,228.3960
Unmitigated	1.0815	1.2254	10.2576	0.0212	2.3313	0.0167	2.3479	0.6210	0.0155	0.6366		2,194.8305	2,194.8305	0.1573	0.0994	2,228.3960

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-Rail	379.32	379.32	379.32	1,107,429	1,107,429
Total	379.32	379.32	379.32	1,107,429	1,107,429

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
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	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
Unrefrigerated Warehouse-Rail	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
NaturalGas Unmitigated	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277

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					
Unrefrigerated Warehouse-Rail	985.479	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Total		**0.0106**	**0.0966**	**0.0812**	**5.8000e-004**		**7.3400e-003**	**7.3400e-003**		**7.3400e-003**	**7.3400e-003**		**115.9388**	**115.9388**	**2.2200e-003**	**2.1300e-003**	**116.6277**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-Rail	0.985479	0.0106	0.0966	0.0812	5.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003		115.9388	115.9388	2.2200e-003	2.1300e-003	116.6277
Total		**0.0106**	**0.0966**	**0.0812**	**5.8000e-004**		**7.3400e-003**	**7.3400e-003**		**7.3400e-003**	**7.3400e-003**		**115.9388**	**115.9388**	**2.2200e-003**	**2.1300e-003**	**116.6277**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Unmitigated	6.0514	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0500e-003	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Total	**6.0514**	**2.0000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0477**	**0.0477**	**1.2000e-004**		**0.0508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.3842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.6652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0500e-003	2.0000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0477	0.0477	1.2000e-004		0.0508
Total	**6.0514**	**2.0000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0477**	**0.0477**	**1.2000e-004**		**0.0508**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

San Diego Clean Fuels LLC
National City, CA
Site Wide Total VOC Emissions

The enclosed emission calculations are for the transloading process of liquid fuels as noted in the table below.

Liquid Fuel	Maximum Daily Loading Throughput (gallons/day)	VOC Emissions lbs/day	VOC Emissions tons/yr
Denatured Ethanol	420,000	2.83	0.52
Aviation Fuel			
Renewable Diesel	420,000	15.27	2.79
Biodiesel	126,000	1.77	0.32
Component Leaks	-	12.41	2.26
Site Total Emissions		**32.27**	**5.89**

Notes:
[1] The emissions from denatured ethanol and/or aviation fuel are assumed the worst case as denatured ethanol
[2] AP-42 Volume I, Chapter 5, Section 5.2 Transportation and Marketing of Petroleum Liquids

San Diego Clean Fuels LLC
National City, CA
Denatured Ethanol and Sustainable Aviation Fuel (SAF) Transloading

Regulated emission releases from Denatured ethanol and Sustainable Aviation Fuels (SAF) loading are calculated using the loading formula from EPA AP-42 section 5.2 and the associated partial pressures of each of the constituents listed on the SDS. The site will load a maximum of 10,000 barrels of either material combined. Emission calculations represent the worst case scenario.

Emission Calculation Equation

$$\text{Emissions (lbs)}^* = 12.46 \times \frac{S \times P \times M \times Q \times (1\text{-}VC)}{T}$$

*Reference: EPA AP-42, Section 5.2, 2008

where		Data		
S	=	0.60		Saturation factor: Submerged loading dedicated normal service (uncontrolled)
S	=	1.00		Saturation factor: Submerged loading dedicated vapor balance (controlled)
Q	=	See below		Volume of material loaded (1,000 gal/yr)
T	=	534.67		temperature of liquid, R (75 F)
VC	=	98.7%		Vapor Collection under NSPS-Level Annual Leak Test
		Denatured EtOH	*SAF [2]*	
P_{VOC}	=	See below	0.10156	Vapor Pressure of each VOC material (psia)
M_{VOC}	=	See below	170	Vapor molecular weight (lb/lb-mole)
Worst Case P*M Value	=	**22.22**		

	Denatured Ethanol								SAF
	Material Content (%)	Vapor Molecular Weight	Moles	Mole Fraction	Vapor Pressure (kPa)	Vapor Pressure (psia)	Partial Pressure (psia)	PM [Partial Pressure x MW]	PM Value
Ethanol	95	46	2.06	0.97	0.86	0.13	0.122	5.62	
Gasoline[1]	5	95	0.05	0.02	48.26	7.00	0.17	16.54	
Benzene	0.06	78	0.001	0.0004	12.80	1.86	0.001	0.05	
						Total PM value to use in Section 5.2 formula		**22.22**	**17.27**

[1] For gasoline, RVP7 was used for Vapor Pressure

[2] SAF is not broken down by material to calculate its PM value due to containing one constituent on the SDS

Moles = material content/MW

Mole Fraction = Moles/total Moles

1 kPa = 0.145038 psia

Partial Pressure = Mole Fraction x Vapor Pressure

Transloading from Railcars to Truck

Max Loading Rate (Total)			Q total	Emission Factor:		San Diego ACDP	VOC Emissions		
				Uncontrolled	Controlled[1]	BACT threshold	Uncontrolled	Controlled	
(barrels/day)	(gals/day)	(gals/yr)	(1,000 gal/day)	(lbs/1000 gals)	(lbs/1000 gals)	(lbs/day)	(lbs/day)	(lbs/day)	(tons/yr)
10,000	420,000	153,300,000	420	0.311	0.007	10	130.5	2.83	0.52

[1] Emissions captured through a vapor balancing process back to the railcar are calculated at a capture efficiency of 98.7% for railcars passing the NSPS-level annual test as outlined under EPA AP-42 Section 5.2.

San Diego Clean Fuels LLC
National City, CA
Renewable Diesel Transloading

Regulated emission releases from Renewable Diesel loading are calculated using the loading formula from EPA AP-42 section 5.2 and the associated partial pressures of each of the constituents listed on the SDS.

Emission Calculation Equation

$$\text{Emissions (lbs)}^* = 12.46 \times \frac{S \times P \times M \times Q}{T}$$

*Reference: EPA AP-42, Section 5.2, 2008

where		Data	
S	=	0.60	Saturation factor: Submerged loading dedicated normal service
P_{VOC}	=	0.013	Vapor pressure of material (psia)
M_{VOC}	=	200	Vapor molecular weight (lb/lb-mole)
Q	=	See below	Volume of material loaded (1,000 gal/yr)
T	=	535	temperature of liquid, R (75 F)

Transloading from Railcars to Truck

Fuel	Max Loading Rate (Total)			Q total	Emission Factor:	San Diego ACDP BACT threshold	VOC Emissions	
	(barrels/day)	(gals/day)	(gals/yr)	(1,000 gal/day)	(lbs/1000 gals)	(lbs/day)	(lbs/day)	(tons/yr)
Renewable Diesel	10,000	420,000	153,300,000	420	0.036	10	15.3	2.79
Additives	-	84	30,569	0.084	1.43E-06		6.02E-04	1.10E-04
				Total:	**0.036**		**15.3**	**2.79**

San Diego Clean Fuels LLC
National City, CA
Additives to Renewable Diesel

The additives listed in this document may be added to the permitted Renewable Diesel (RD) loading in the noted quantities. Actual regulated emissions from this process are negligible in quantity.

Additive	VOC	VOC (lbs/gal)	HAP Content		Volumes in Gallons		% of Batch (volume)	% of Batch (HAP Content)
					Volume of Additive	Load Batch		
Conductivity	0%	0.00	-	0%	84	672,000	0.01250%	0.00000%
Lubricity	5%	0.38	Triethanolamine	5%	2	672,000	0.00030%	0.00001%
Red Dye	32.60%	2.72	Xylene	35%	2	28,000	0.00714%	0.00250%
			Ethylbenzene	20%				0.00143%
Total Additives							0.01994%	0.00394%

Lubricity is to be added up to 100% of the RD loads
Conductivity is to be added up to 100% of the RD loads
Red Dye is to be added up to 50% of the RD loads

San Diego Clean Fuels LLC
National City, CA
Bio Diesel Transloading

Regulated emission releases from Bio Diesel loading are calculated using the loading formula from EPA AP-42 section 5.2 and the associated partial pressures of each of the constituents listed on the SDS.

Emission Calculation Equation

$$\text{Emissions (lbs)}^* = 12.46 \times \frac{S \times P \times M \times Q \times (1-VC)}{T}$$

*Reference: EPA AP-42, Section 5.2, 2008

where		Data	
S	=	0.60	Sat factor: Submerged loading dedicated normal service (uncontrolled)
P_{VOC}	=	See Below	Partial pressure of each VOC material (psia)
M_{VOC}	=	See Below	Vapor molecular weight (lb/lb-mole)
Q	=	See below	Volume of material loaded (1,000 gal/yr)
T	=	535	temperature of liquid, R (75 F)

	Material Content (%)	Vapor Molecular Weight	Moles	Mole Fraction	Vapor Pressure (kPa)	Vapor Pressure (psia)	Partial Pressure (psia)	PM [Partial Pressure x MW]
Fuels, diesel	79	200	0.40	0.83	0.039	0.006	0.00467	0.9349
Methyl Esters	20	257	0.08	0.16	0.007	0.001	0.00	0.0413
Diesel Fuel	1	200	0.01	0.01	0.087	0.013	0.00	0.0264
						Total PM value to use in Section 5.2 formula		**1.003**

Moles = material content/MW

Mole Fraction = Moles/total Moles

1 kPa = 0.145038 psia

Partial Pressure = Mole Fraction x Vapor Pressure

Transloading from Railcars to Truck

Max Bio Diesel Loading Rate (Total)			Q total		Emission Factor:	San Diego ACDP BACT limit	VOC Emissions	
(barrels/day)	(gals/day)	(gals/yr)	(1,000 gal/day)	(1,000 gal/yr)	(lbs/1000 gals)	(lbs/day)	(lbs/day)	(tons/yr)
3,000	126,000	45,990,000	126	45,990	0.014	10	1.77	0.32

San Diego Clean Fuels LLC
National City, CA
Facility Wide Component Emissions

Source Unit		Service	Denatured Ethanol or SAF			Renewable Diesel			Biodiesel		
			Correlation Equation Factor[1] 500 ppm (lbs/year)	Number of Components	VOC Emissions (lbs/year)[3]	Correlation Equation Factor[1] 400 ppm (lbs/year)	Number of Components	VOC Emissions (lbs/year)[3]	Correlation Equation Factor[1] 300 ppm (lbs/year)	Number of Components	VOC Emissions (lbs/year)[3]
Valves	I & M Program	All	4.55	67	304.56	3.85	67	257.80	3.10	59	183.12
Pumps	Sealless Type	Light Liquid[2]	46.83	2	93.65	40.76	2	81.51	34.08	2	68.16
Connectors		All	2.86	22	62.95	2.43	22	53.42	1.96	20	39.29
Flanges (ANSI 16.5-1988)		All	6.99	145	1013.58	5.97	145	865.84	4.87	145	706.69
Pressure Relief Valves		All	4.55	8	36.37	3.85	8	30.78	3.10	8	24.83
Other (fittings, hatches, sight glasses, meters)		All	9.09	30	272.69	7.88	30	236.29	6.55	30	196.44
			VOC Emissions (lbs/day):		4.89	VOC Emissions (lbs/day):		4.18	VOC Emissions (lbs/day):		3.34
										VOC Emissions (lbs/day)	**12.41**

[1] Emission Factor from correlation equations based on Screening Value (SV) as listed
[2] Liquid with a vapor pressure greater than that of kerosene (>0.1 psia @ 100 F or 689 Pa @ 38 C)
[3] VOC emission calculations and equations come from Table IV-3a of South Coast AQMD's Guidelines for Fugitive Emission Calculations

San Diego Clean Fuels LLC
National City, CA
Vapor Collection System Background

AP-42, Section 5.2:

According to EPA AP-42 section 5.2 "Transportation and Marketing of Petroleum Liquids", page 6; trucks passing the NSPS-level annual leak test are assumed to have a collection efficiency of 98.7% across the collection system.

Documentation:

The models of trucks being used at the new San Diego Clean Fuels LLC facility are used at a similar site by the same owner and pass the NSPS-level annual leak test. Upon arrival, the trucks for this facility will conduct testing and proof of passing the test will be sent to San Diego APCD.

ATTACHMENT B

Health Risk Analysis Output Files

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	488325.77	3613186.13	40	40	50.00	50.00

Discrete Receptors

Plant Boundary Receptors

Source Pathway - Source Inputs

Volume Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dim. [m]	Initial Vertical Dim. [m]
VOLUME	VOL1	489437.73	3614063.92	5.83	3.00	1.00000	49.47		11.50	4.20
		Onsite Idle								

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME
Source: SLINE1

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
45.00	1.00000		489416.53	3614035.65	5.30	0.00
			489292.85	3614417.30	4.00	0.00

Source Type: LINE VOLUME
Source: SLINE2 (Exit to I5N)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.00000		489642.69	3614722.96	8.50	2.55
			489248.68	3614586.92	3.57	2.55
			489188.60	3613931.40	2.86	2.55
			489460.70	3614019.75	6.06	2.55

Source Type: LINE VOLUME
Source: SLINE3 (Cleveland to Entrence)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.00000		489529.61	3614664.66	6.96	0.00
			489400.63	3614560.41	5.20	0.00
			489515.48	3614150.50	6.97	0.00
			489427.13	3614109.86	5.83	0.00

Source Type: LINE VOLUME
Source: SLINE4 (Exit to W 18 St)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.00000		489474.84	3614025.05	6.17	0.00
			489549.05	3614048.02	7.03	0.00
			489515.48	3614148.73	6.97	0.00

Source Pathway - Source Inputs

Source Type: LINE VOLUME
Source: SLINE5 (W18 ST)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.00000		489522.54	3614154.03	7.00	0.00
			489944.83	3614286.55	13.18	0.00

Source Type: LINE VOLUME
Source: SLINE6 (CLEVELAND SOUTH to I5)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.00000		489554.35	3614051.55	7.05	0.00
			489708.07	3613572.73	10.70	0.00
			489817.61	3613595.70	11.90	0.00

Source Pathway - Source Inputs

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000001	489409.60	3614057.05	5.47	0.00	0.11111	45.00		20.93	17.21
	L0000002	489395.72	3614099.86	5.29	0.00	0.11111	45.00		20.93	17.21
	L0000003	489381.85	3614142.67	5.11	0.00	0.11111	45.00		20.93	17.21
	L0000004	489367.98	3614185.48	4.93	0.00	0.11111	45.00		20.93	17.21
	L0000005	489354.10	3614228.29	4.76	0.00	0.11111	45.00		20.93	17.21
	L0000006	489340.23	3614271.09	4.58	0.00	0.11111	45.00		20.93	17.21
	L0000007	489326.36	3614313.90	4.40	0.00	0.11111	45.00		20.93	17.21
	L0000008	489312.48	3614356.71	4.22	0.00	0.11111	45.00		20.93	17.21
	L0000009	489298.61	3614399.52	4.04	0.00	0.11111	45.00		20.93	17.21

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE2	L0000010	489638.91	3614721.66	8.39	2.55	0.01163	8.00		7.40	1.95
	L0000011	489623.86	3614716.46	8.20	2.55	0.01163	8.00		7.40	1.95
	L0000012	489608.82	3614711.27	8.01	2.55	0.01163	8.00		7.40	1.95
	L0000013	489593.77	3614706.07	7.82	2.55	0.01163	8.00		7.40	1.95
	L0000014	489578.72	3614700.88	7.62	2.55	0.01163	8.00		7.40	1.95
	L0000015	489563.67	3614695.68	7.43	2.55	0.01163	8.00		7.40	1.95
	L0000016	489548.62	3614690.48	7.24	2.55	0.01163	8.00		7.40	1.95
	L0000017	489533.58	3614685.29	7.05	2.55	0.01163	8.00		7.40	1.95
	L0000018	489518.53	3614680.09	6.85	2.55	0.01163	8.00		7.40	1.95
	L0000019	489503.48	3614674.90	6.66	2.55	0.01163	8.00		7.40	1.95
	L0000020	489488.43	3614669.70	6.47	2.55	0.01163	8.00		7.40	1.95
	L0000021	489473.38	3614664.50	6.28	2.55	0.01163	8.00		7.40	1.95
	L0000022	489458.34	3614659.31	6.08	2.55	0.01163	8.00		7.40	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE2	L0000023	489443.29	3614654.11	5.89	2.55	0.01163	8.00		7.40	1.95
	L0000024	489428.24	3614648.92	5.70	2.55	0.01163	8.00		7.40	1.95
	L0000025	489413.19	3614643.72	5.51	2.55	0.01163	8.00		7.40	1.95
	L0000026	489398.14	3614638.52	5.31	2.55	0.01163	8.00		7.40	1.95
	L0000027	489383.10	3614633.33	5.12	2.55	0.01163	8.00		7.40	1.95
	L0000028	489368.05	3614628.13	4.93	2.55	0.01163	8.00		7.40	1.95
	L0000029	489353.00	3614622.94	4.74	2.55	0.01163	8.00		7.40	1.95
	L0000030	489337.95	3614617.74	4.54	2.55	0.01163	8.00		7.40	1.95
	L0000031	489322.90	3614612.54	4.35	2.55	0.01163	8.00		7.40	1.95
	L0000032	489307.86	3614607.35	4.16	2.55	0.01163	8.00		7.40	1.95
	L0000033	489292.81	3614602.15	3.97	2.55	0.01163	8.00		7.40	1.95
	L0000034	489277.76	3614596.96	3.77	2.55	0.01163	8.00		7.40	1.95
	L0000035	489262.71	3614591.76	3.58	2.55	0.01163	8.00		7.40	1.95
	L0000036	489248.58	3614585.85	3.40	2.55	0.01163	8.00		7.40	1.95
	L0000037	489247.13	3614569.99	3.38	2.55	0.01163	8.00		7.40	1.95
	L0000038	489245.68	3614554.14	3.36	2.55	0.01163	8.00		7.40	1.95
	L0000039	489244.22	3614538.29	3.35	2.55	0.01163	8.00		7.40	1.95
	L0000040	489242.77	3614522.43	3.33	2.55	0.01163	8.00		7.40	1.95
	L0000041	489241.32	3614506.58	3.31	2.55	0.01163	8.00		7.40	1.95
	L0000042	489239.86	3614490.73	3.29	2.55	0.01163	8.00		7.40	1.95
	L0000043	489238.41	3614474.87	3.27	2.55	0.01163	8.00		7.40	1.95
	L0000044	489236.96	3614459.02	3.25	2.55	0.01163	8.00		7.40	1.95
	L0000045	489235.51	3614443.17	3.24	2.55	0.01163	8.00		7.40	1.95
	L0000046	489234.05	3614427.31	3.22	2.55	0.01163	8.00		7.40	1.95
	L0000047	489232.60	3614411.46	3.20	2.55	0.01163	8.00		7.40	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE2	L0000048	489231.15	3614395.61	3.18	2.55	0.01163	8.00		7.40	1.95
	L0000049	489229.69	3614379.75	3.16	2.55	0.01163	8.00		7.40	1.95
	L0000050	489228.24	3614363.90	3.14	2.55	0.01163	8.00		7.40	1.95
	L0000051	489226.79	3614348.05	3.13	2.55	0.01163	8.00		7.40	1.95
	L0000052	489225.33	3614332.19	3.11	2.55	0.01163	8.00		7.40	1.95
	L0000053	489223.88	3614316.34	3.09	2.55	0.01163	8.00		7.40	1.95
	L0000054	489222.43	3614300.49	3.07	2.55	0.01163	8.00		7.40	1.95
	L0000055	489220.98	3614284.63	3.05	2.55	0.01163	8.00		7.40	1.95
	L0000056	489219.52	3614268.78	3.03	2.55	0.01163	8.00		7.40	1.95
	L0000057	489218.07	3614252.93	3.02	2.55	0.01163	8.00		7.40	1.95
	L0000058	489216.62	3614237.07	3.00	2.55	0.01163	8.00		7.40	1.95
	L0000059	489215.16	3614221.22	2.98	2.55	0.01163	8.00		7.40	1.95
	L0000060	489213.71	3614205.37	2.96	2.55	0.01163	8.00		7.40	1.95
	L0000061	489212.26	3614189.51	2.94	2.55	0.01163	8.00		7.40	1.95
	L0000062	489210.81	3614173.66	2.92	2.55	0.01163	8.00		7.40	1.95
	L0000063	489209.35	3614157.81	2.91	2.55	0.01163	8.00		7.40	1.95
	L0000064	489207.90	3614141.95	2.89	2.55	0.01163	8.00		7.40	1.95
	L0000065	489206.45	3614126.10	2.87	2.55	0.01163	8.00		7.40	1.95
	L0000066	489204.99	3614110.25	2.85	2.55	0.01163	8.00		7.40	1.95
	L0000067	489203.54	3614094.39	2.83	2.55	0.01163	8.00		7.40	1.95
	L0000068	489202.09	3614078.54	2.81	2.55	0.01163	8.00		7.40	1.95
	L0000069	489200.64	3614062.69	2.79	2.55	0.01163	8.00		7.40	1.95
	L0000070	489199.18	3614046.83	2.78	2.55	0.01163	8.00		7.40	1.95
	L0000071	489197.73	3614030.98	2.76	2.55	0.01163	8.00		7.40	1.95
	L0000072	489196.28	3614015.13	2.74	2.55	0.01163	8.00		7.40	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE2	L0000073	489194.82	3613999.27	2.72	2.55	0.01163	8.00		7.40	1.95
	L0000074	489193.37	3613983.42	2.70	2.55	0.01163	8.00		7.40	1.95
	L0000075	489191.92	3613967.57	2.68	2.55	0.01163	8.00		7.40	1.95
	L0000076	489190.47	3613951.71	2.67	2.55	0.01163	8.00		7.40	1.95
	L0000077	489189.01	3613935.86	2.65	2.55	0.01163	8.00		7.40	1.95
	L0000078	489199.49	3613934.94	2.78	2.55	0.01163	8.00		7.40	1.95
	L0000079	489214.63	3613939.85	2.98	2.55	0.01163	8.00		7.40	1.95
	L0000080	489229.77	3613944.77	3.17	2.55	0.01163	8.00		7.40	1.95
	L0000081	489244.92	3613949.69	3.36	2.55	0.01163	8.00		7.40	1.95
	L0000082	489260.06	3613954.60	3.56	2.55	0.01163	8.00		7.40	1.95
	L0000083	489275.20	3613959.52	3.75	2.55	0.01163	8.00		7.40	1.95
	L0000084	489290.34	3613964.44	3.94	2.55	0.01163	8.00		7.40	1.95
	L0000085	489305.48	3613969.35	4.14	2.55	0.01163	8.00		7.40	1.95
	L0000086	489320.62	3613974.27	4.33	2.55	0.01163	8.00		7.40	1.95
	L0000087	489335.77	3613979.18	4.53	2.55	0.01163	8.00		7.40	1.95
	L0000088	489350.91	3613984.10	4.72	2.55	0.01163	8.00		7.40	1.95
	L0000089	489366.05	3613989.02	4.91	2.55	0.01163	8.00		7.40	1.95
	L0000090	489381.19	3613993.93	5.11	2.55	0.01163	8.00		7.40	1.95
	L0000091	489396.33	3613998.85	5.30	2.55	0.01163	8.00		7.40	1.95
	L0000092	489411.47	3614003.76	5.49	2.55	0.01163	8.00		7.40	1.95
	L0000093	489426.62	3614008.68	5.69	2.55	0.01163	8.00		7.40	1.95
	L0000094	489441.76	3614013.60	5.88	2.55	0.01163	8.00		7.40	1.95
	L0000095	489456.90	3614018.51	6.08	2.55	0.01163	8.00		7.40	1.95

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE3	L0000220	489526.50	3614662.14	6.96	0.00	0.02273	8.00		7.36	1.95
	L0000221	489514.19	3614652.19	6.80	0.00	0.02273	8.00		7.36	1.95
	L0000222	489501.87	3614642.24	6.64	0.00	0.02273	8.00		7.36	1.95
	L0000223	489489.56	3614632.29	6.48	0.00	0.02273	8.00		7.36	1.95
	L0000224	489477.25	3614622.34	6.33	0.00	0.02273	8.00		7.36	1.95
	L0000225	489464.93	3614612.38	6.17	0.00	0.02273	8.00		7.36	1.95
	L0000226	489452.62	3614602.43	6.01	0.00	0.02273	8.00		7.36	1.95
	L0000227	489440.31	3614592.48	5.85	0.00	0.02273	8.00		7.36	1.95
	L0000228	489427.99	3614582.53	5.70	0.00	0.02273	8.00		7.36	1.95
	L0000229	489415.68	3614572.58	5.54	0.00	0.02273	8.00		7.36	1.95
	L0000230	489403.37	3614562.62	5.38	0.00	0.02273	8.00		7.36	1.95
	L0000231	489403.95	3614548.56	5.39	0.00	0.02273	8.00		7.36	1.95
	L0000232	489408.22	3614533.31	5.45	0.00	0.02273	8.00		7.36	1.95
	L0000233	489412.49	3614518.07	5.50	0.00	0.02273	8.00		7.36	1.95
	L0000234	489416.77	3614502.82	5.55	0.00	0.02273	8.00		7.36	1.95
	L0000235	489421.04	3614487.58	5.61	0.00	0.02273	8.00		7.36	1.95
	L0000236	489425.31	3614472.33	5.66	0.00	0.02273	8.00		7.36	1.95
	L0000237	489429.58	3614457.09	5.72	0.00	0.02273	8.00		7.36	1.95
	L0000238	489433.85	3614441.84	5.77	0.00	0.02273	8.00		7.36	1.95
	L0000239	489438.12	3614426.60	5.83	0.00	0.02273	8.00		7.36	1.95
	L0000240	489442.39	3614411.35	5.88	0.00	0.02273	8.00		7.36	1.95
	L0000241	489446.66	3614396.10	5.94	0.00	0.02273	8.00		7.36	1.95
	L0000242	489450.94	3614380.86	5.99	0.00	0.02273	8.00		7.36	1.95
	L0000243	489455.21	3614365.61	6.05	0.00	0.02273	8.00		7.36	1.95
	L0000244	489459.48	3614350.37	6.10	0.00	0.02273	8.00		7.36	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE3	L0000245	489463.75	3614335.12	6.16	0.00	0.02273	8.00		7.36	1.95
	L0000246	489468.02	3614319.88	6.21	0.00	0.02273	8.00		7.36	1.95
	L0000247	489472.29	3614304.63	6.27	0.00	0.02273	8.00		7.36	1.95
	L0000248	489476.56	3614289.39	6.32	0.00	0.02273	8.00		7.36	1.95
	L0000249	489480.83	3614274.14	6.38	0.00	0.02273	8.00		7.36	1.95
	L0000250	489485.11	3614258.90	6.43	0.00	0.02273	8.00		7.36	1.95
	L0000251	489489.38	3614243.65	6.49	0.00	0.02273	8.00		7.36	1.95
	L0000252	489493.65	3614228.41	6.54	0.00	0.02273	8.00		7.36	1.95
	L0000253	489497.92	3614213.16	6.60	0.00	0.02273	8.00		7.36	1.95
	L0000254	489502.19	3614197.92	6.65	0.00	0.02273	8.00		7.36	1.95
	L0000255	489506.46	3614182.67	6.71	0.00	0.02273	8.00		7.36	1.95
	L0000256	489510.73	3614167.43	6.76	0.00	0.02273	8.00		7.36	1.95
	L0000257	489515.00	3614152.18	6.82	0.00	0.02273	8.00		7.36	1.95
	L0000258	489502.68	3614144.61	6.66	0.00	0.02273	8.00		7.36	1.95
	L0000259	489488.30	3614138.00	6.48	0.00	0.02273	8.00		7.36	1.95
	L0000260	489473.92	3614131.38	6.29	0.00	0.02273	8.00		7.36	1.95
	L0000261	489459.53	3614124.76	6.11	0.00	0.02273	8.00		7.36	1.95
	L0000262	489445.15	3614118.15	5.92	0.00	0.02273	8.00		7.36	1.95
	L0000263	489430.77	3614111.53	5.74	0.00	0.02273	8.00		7.36	1.95

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE4	L0000350	489478.66	3614026.23	6.35	0.00	0.08333	8.00		7.44	1.95
	L0000351	489493.93	3614030.96	6.55	0.00	0.08333	8.00		7.44	1.95
	L0000352	489509.20	3614035.68	6.74	0.00	0.08333	8.00		7.44	1.95
	L0000353	489524.47	3614040.41	6.94	0.00	0.08333	8.00		7.44	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE4	L0000354	489539.74	3614045.14	7.13	0.00	0.08333	8.00		7.44	1.95
	L0000355	489547.07	3614053.94	7.23	0.00	0.08333	8.00		7.44	1.95
	L0000356	489542.02	3614069.11	7.16	0.00	0.08333	8.00		7.44	1.95
	L0000357	489536.96	3614084.27	7.10	0.00	0.08333	8.00		7.44	1.95
	L0000358	489531.91	3614099.44	7.03	0.00	0.08333	8.00		7.44	1.95
	L0000359	489526.85	3614114.60	6.97	0.00	0.08333	8.00		7.44	1.95
	L0000360	489521.80	3614129.77	6.90	0.00	0.08333	8.00		7.44	1.95
	L0000361	489516.74	3614144.94	6.84	0.00	0.08333	8.00		7.44	1.95

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE5	L0000362	489526.36	3614155.23	6.96	0.00	0.03448	8.00		7.22	1.95
	L0000363	489541.17	3614159.88	7.15	0.00	0.03448	8.00		7.22	1.95
	L0000364	489555.98	3614164.52	7.34	0.00	0.03448	8.00		7.22	1.95
	L0000365	489570.79	3614169.17	7.53	0.00	0.03448	8.00		7.22	1.95
	L0000366	489585.60	3614173.82	7.72	0.00	0.03448	8.00		7.22	1.95
	L0000367	489600.41	3614178.46	7.91	0.00	0.03448	8.00		7.22	1.95
	L0000368	489615.21	3614183.11	8.10	0.00	0.03448	8.00		7.22	1.95
	L0000369	489630.02	3614187.76	8.29	0.00	0.03448	8.00		7.22	1.95
	L0000370	489644.83	3614192.41	8.48	0.00	0.03448	8.00		7.22	1.95
	L0000371	489659.64	3614197.05	8.67	0.00	0.03448	8.00		7.22	1.95
	L0000372	489674.45	3614201.70	8.86	0.00	0.03448	8.00		7.22	1.95
	L0000373	489689.26	3614206.35	9.07	0.00	0.03448	8.00		7.22	1.95
	L0000374	489704.07	3614210.99	9.33	0.00	0.03448	8.00		7.22	1.95
	L0000375	489718.88	3614215.64	9.57	0.00	0.03448	8.00		7.22	1.95
	L0000376	489733.69	3614220.29	9.80	0.00	0.03448	8.00		7.22	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE5	L0000377	489748.50	3614224.94	10.00	0.00	0.03448	8.00		7.22	1.95
	L0000378	489763.30	3614229.58	10.19	0.00	0.03448	8.00		7.22	1.95
	L0000379	489778.11	3614234.23	10.48	0.00	0.03448	8.00		7.22	1.95
	L0000380	489792.92	3614238.88	10.80	0.00	0.03448	8.00		7.22	1.95
	L0000381	489807.73	3614243.52	11.14	0.00	0.03448	8.00		7.22	1.95
	L0000382	489822.54	3614248.17	11.50	0.00	0.03448	8.00		7.22	1.95
	L0000383	489837.35	3614252.82	11.83	0.00	0.03448	8.00		7.22	1.95
	L0000384	489852.16	3614257.47	12.02	0.00	0.03448	8.00		7.22	1.95
	L0000385	489866.97	3614262.11	12.16	0.00	0.03448	8.00		7.22	1.95
	L0000386	489881.78	3614266.76	12.30	0.00	0.03448	8.00		7.22	1.95
	L0000387	489896.58	3614271.41	12.44	0.00	0.03448	8.00		7.22	1.95
	L0000388	489911.39	3614276.05	12.58	0.00	0.03448	8.00		7.22	1.95
	L0000389	489926.20	3614280.70	12.72	0.00	0.03448	8.00		7.22	1.95
	L0000390	489941.01	3614285.35	12.85	0.00	0.03448	8.00		7.22	1.95

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE6	L0000391	489555.57	3614047.74	7.34	0.00	0.02564	8.00		7.43	1.95
	L0000392	489560.45	3614032.54	7.40	0.00	0.02564	8.00		7.43	1.95
	L0000393	489565.33	3614017.33	7.46	0.00	0.02564	8.00		7.43	1.95
	L0000394	489570.21	3614002.13	7.53	0.00	0.02564	8.00		7.43	1.95
	L0000395	489575.10	3613986.92	7.59	0.00	0.02564	8.00		7.43	1.95
	L0000396	489579.98	3613971.72	7.65	0.00	0.02564	8.00		7.43	1.95
	L0000397	489584.86	3613956.52	7.71	0.00	0.02564	8.00		7.43	1.95
	L0000398	489589.74	3613941.31	7.78	0.00	0.02564	8.00		7.43	1.95
	L0000399	489594.62	3613926.11	7.84	0.00	0.02564	8.00		7.43	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE6	L0000400	489599.50	3613910.90	7.90	0.00	0.02564	8.00		7.43	1.95
	L0000401	489604.38	3613895.70	7.96	0.00	0.02564	8.00		7.43	1.95
	L0000402	489609.26	3613880.49	8.03	0.00	0.02564	8.00		7.43	1.95
	L0000403	489614.15	3613865.29	8.10	0.00	0.02564	8.00		7.43	1.95
	L0000404	489619.03	3613850.08	8.20	0.00	0.02564	8.00		7.43	1.95
	L0000405	489623.91	3613834.88	8.32	0.00	0.02564	8.00		7.43	1.95
	L0000406	489628.79	3613819.67	8.45	0.00	0.02564	8.00		7.43	1.95
	L0000407	489633.67	3613804.47	8.61	0.00	0.02564	8.00		7.43	1.95
	L0000408	489638.55	3613789.26	8.79	0.00	0.02564	8.00		7.43	1.95
	L0000409	489643.43	3613774.06	8.93	0.00	0.02564	8.00		7.43	1.95
	L0000410	489648.31	3613758.85	9.06	0.00	0.02564	8.00		7.43	1.95
	L0000411	489653.20	3613743.65	9.18	0.00	0.02564	8.00		7.43	1.95
	L0000412	489658.08	3613728.44	9.31	0.00	0.02564	8.00		7.43	1.95
	L0000413	489662.96	3613713.24	9.43	0.00	0.02564	8.00		7.43	1.95
	L0000414	489667.84	3613698.04	9.56	0.00	0.02564	8.00		7.43	1.95
	L0000415	489672.72	3613682.83	9.70	0.00	0.02564	8.00		7.43	1.95
	L0000416	489677.60	3613667.63	9.83	0.00	0.02564	8.00		7.43	1.95
	L0000417	489682.48	3613652.42	9.95	0.00	0.02564	8.00		7.43	1.95
	L0000418	489687.36	3613637.22	10.03	0.00	0.02564	8.00		7.43	1.95
	L0000419	489692.24	3613622.01	10.09	0.00	0.02564	8.00		7.43	1.95
	L0000420	489697.13	3613606.81	10.15	0.00	0.02564	8.00		7.43	1.95
	L0000421	489702.01	3613591.60	10.22	0.00	0.02564	8.00		7.43	1.95
	L0000422	489706.89	3613576.40	10.28	0.00	0.02564	8.00		7.43	1.95
	L0000423	489719.92	3613575.21	10.45	0.00	0.02564	8.00		7.43	1.95
	L0000424	489735.55	3613578.49	10.65	0.00	0.02564	8.00		7.43	1.95

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE6	L0000425	489751.18	3613581.77	10.85	0.00	0.02564	8.00		7.43	1.95
	L0000426	489766.81	3613585.05	11.05	0.00	0.02564	8.00		7.43	1.95
	L0000427	489782.44	3613588.32	11.25	0.00	0.02564	8.00		7.43	1.95
	L0000428	489798.07	3613591.60	11.45	0.00	0.02564	8.00		7.43	1.95
	L0000429	489813.70	3613594.88	11.65	0.00	0.02564	8.00		7.43	1.95

San Diego Clean Fuels Terminal
Offsite Truck Emission Calculations

Table B-1. Modeled Roadway Dimensions

Roadway Link Description[1]	AERMOD ID	Length (miles)	Width (m)	Area (m^2)
Exit to I5N	SLINE2	0.85	7.4	10,075
I5 to Entrance	SLINE3	0.43	7.4	5,098
Exit to W 18th St	SLINE4	0.11	7.4	1,310
18th Street	SLINE5	0.28	7.4	3,297
Cleveland South to I5	SLINE6	0.38	7.4	4,570

(1) Onsite emissions accounted for in Onsite Idling Calculations

Table B-2. Total Trip Information

Trip Type	Trips
Average Daily Trips[1]	210

(1) Average Daily Truck trips are one way.

Table B-3. Vehicle EMFAC2021 Emission Rates

	DPM Emission Rates[1] (g/mi)				
Vehicle Type	Idle[2]	5 mph	10 mph	35 mph	Composite
HHDT	0.017	0.015	0.013	0.008	0.010

(1) EMFAC2021 PM10 2023 exhaust emission factors for San Diego County Heavy Duty Trucks.

(2) Idle emission rates in grams per hour as generated in EMFAC.

(3) Composite factor is 80% @ 35 mph + 5% @ 10 mph + 15% @ 5 mph + 1 minute idle per 10 miles

Table B-4. Modeled Roadway Trip Information

	Trip Information		
Roadway Link	Percentage Total Trips	Peak Hourly	Average Daily
Exit to I5N	87%	16.6	182.7
I5 to Entrance	87%	16.6	182.7
Exit to W 18th St	13%	2.5	27.3
18th Street	3%	0.6	6.3
Cleveland South to I5	10%	1.9	21.0

San Diego Clean Fuels Terminal
Offsite Truck Emission Calculations

Table B-5. Calculated Emissions from Offsite Truck Traffic

	Emissions	
Roadway Link	**Peak Hourly (lbs/hr)**	**Annual (lbs/yr)**
Exit to I5N	0.13	1.48
I5 to Entrance	0.07	0.75
Exit to W 18th St	0.0026	0.029
18th Street	0.002	0.02
Cleveland South to I5	0.01	0.08

San Diego Clean Fuels Terminal
Onsite Truck Emission Calculations

Table B-6. Calculated Emissions for Onsite Truck Activities

On-Site Idle Emissions	Composite Emission Factor (g/hour)	Idling Time (min)	Daily Trucks	Peak Hourly (lbs/hr)	Annual (lbs/yr)
Project Trucks	0.017	20	105	0.0001	0.47
Total Onsite				0.0001	0.47

Source: EMFAC2021. PM10 Emission Factors are derived from the Year 2023 Heavy-Duty Trucks

San Diego Clean Fuels Terminal
Switching Activity Emissions Calculations

Table B-7. Modeled Switching Area Dimensions

Source Description	AERMOD ID	Length (miles)	Width (m)	Area (m^2)
Switching Volume Source	SLINE1	0.11	20	3,541

(1) All roadways modeled as two lanes with standard 3.7 meter width per lane.

(2) Site to Montague captures eastbound and westbound traffic

(3) Onsite Milage estimated as average round trip onsite.

Table B-8. Total Trip Information

Trip Type	Hours
Average Daily Switching Activity	0.5

Table B-9. Vehicle EMFAC2021 Emission Rates

	DPM Emission Rates[1] (g/hr)				
Engine Type	Idle	Breaking	1	2	Composite
Switching Engine	31.0	56.0	23.0	76.0	30.4

(1) Source: SAN DIEGO TAC EMISSIONS INVENTORY (Environ from BNSF, 2008)

Composite EF = mode 1 * .8 + mode 2 * .1 + Idle * .05 + Breaking * .05

Equations

Hourly Emissions (lbs/hr) = Hours per Day * Composite DPM ER (g/hr) / 454 (g/lb)

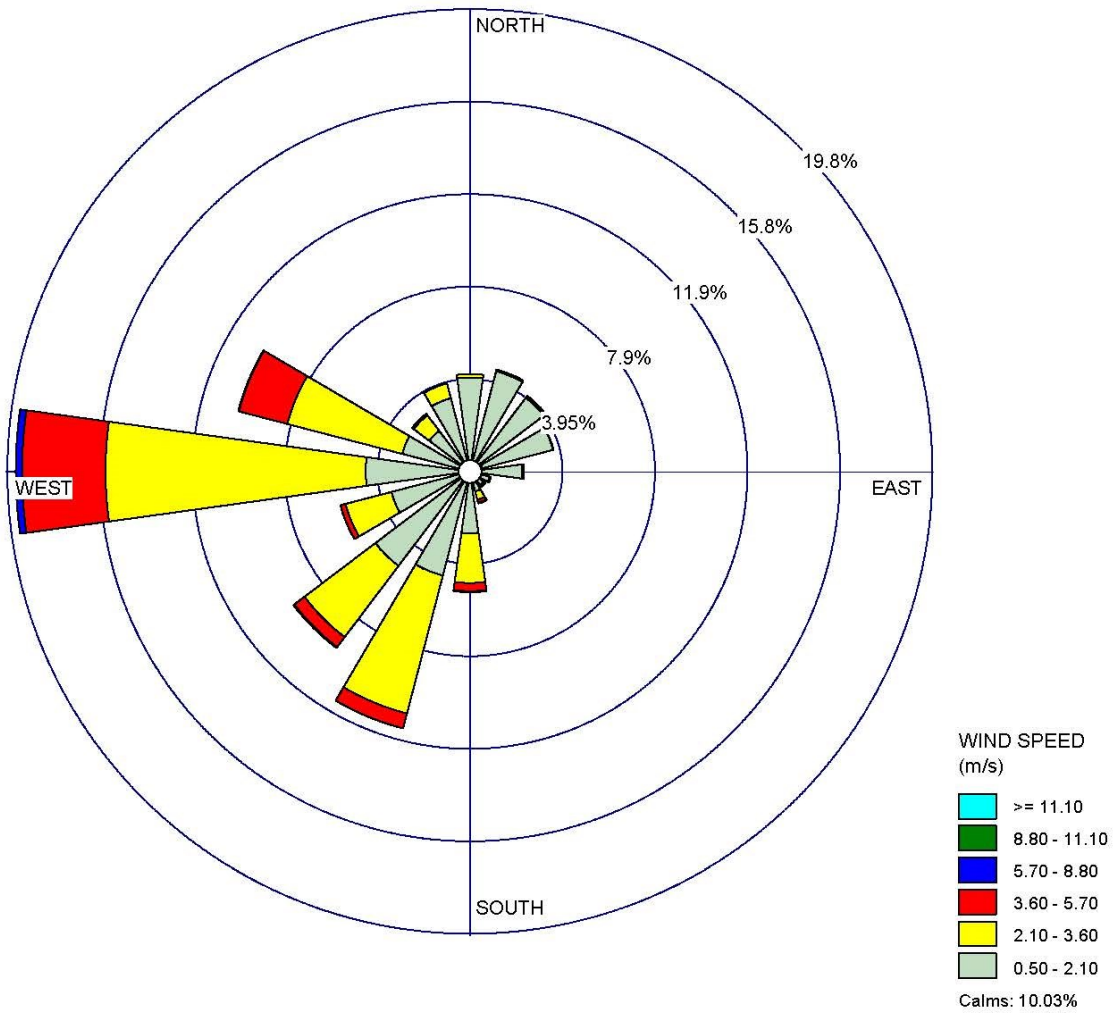
Annual Emissions (lbs/yr) = Hourly Emissions (lbs/hr) * 365 (days/yr) / 2

Table B-9. Calculated Emissions from all Modeled Sources - Southern Truck Route Land use Plan

	Emissions	
Source Description	Peak Hourly (lbs/hr)	Annual (lbs/yr)
Switching Volume Source	0.03	6.1

WIND ROSE PLOT:
Perkins Elementry School

DISPLAY:
Wind Speed
Direction (blowing from)

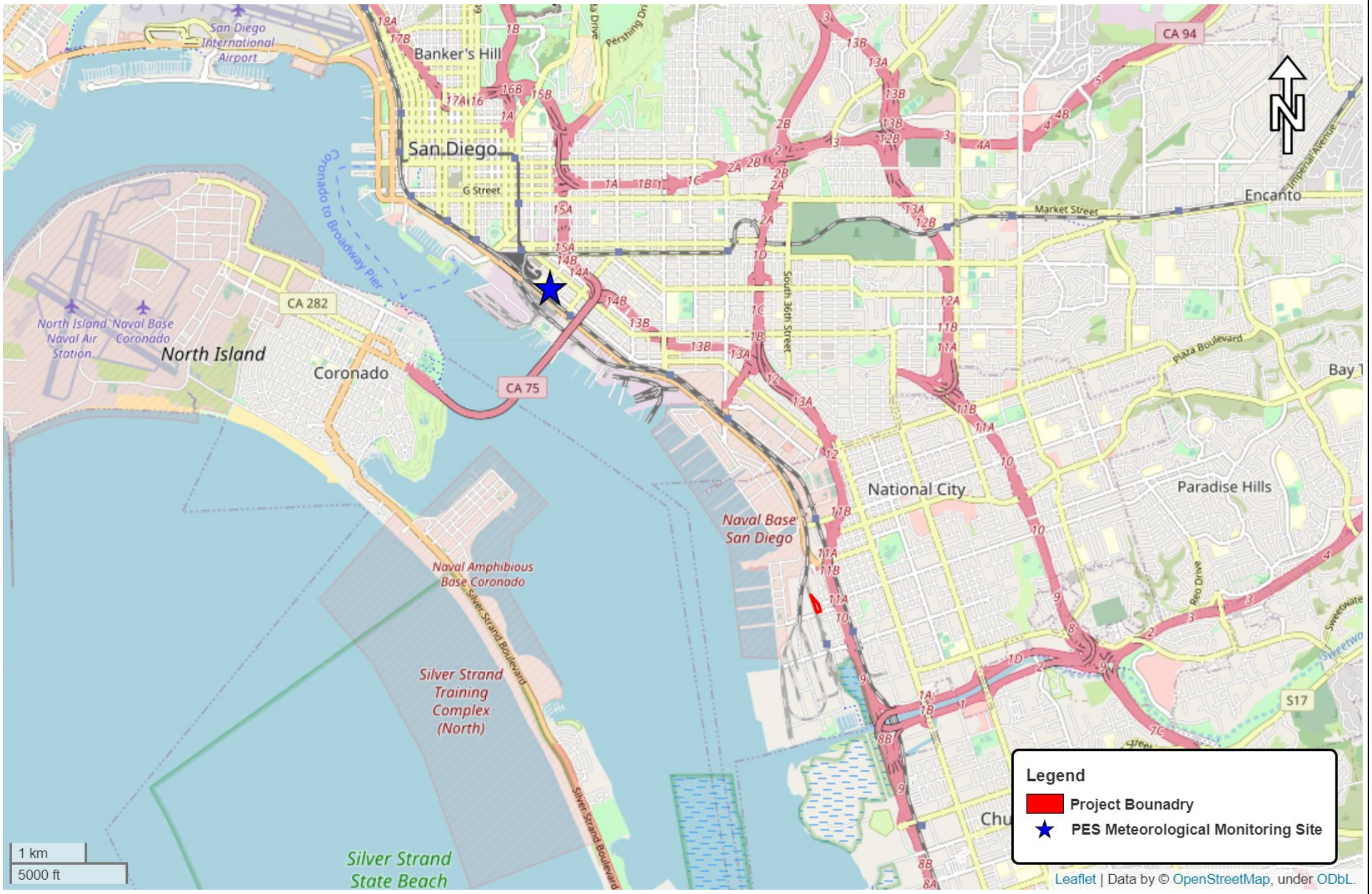


COMMENTS:	DATA PERIOD:	COMPANY NAME:	
AERMET Processed Data	**Start Date: 1/1/2010 - 00:00** **End Date: 12/31/2012 - 23:59**	MODELER:	
	CALM WINDS: **10.03%**	TOTAL COUNT: **26302 hrs.**	
	AVG. WIND SPEED: **1.91 m/s**	DATE: **6/17/2022**	PROJECT NO.: **2021-285**

WRPLOT View - Lakes Environmental Software

Figure B-1. PES Wind Rose (SDAPCD Data)

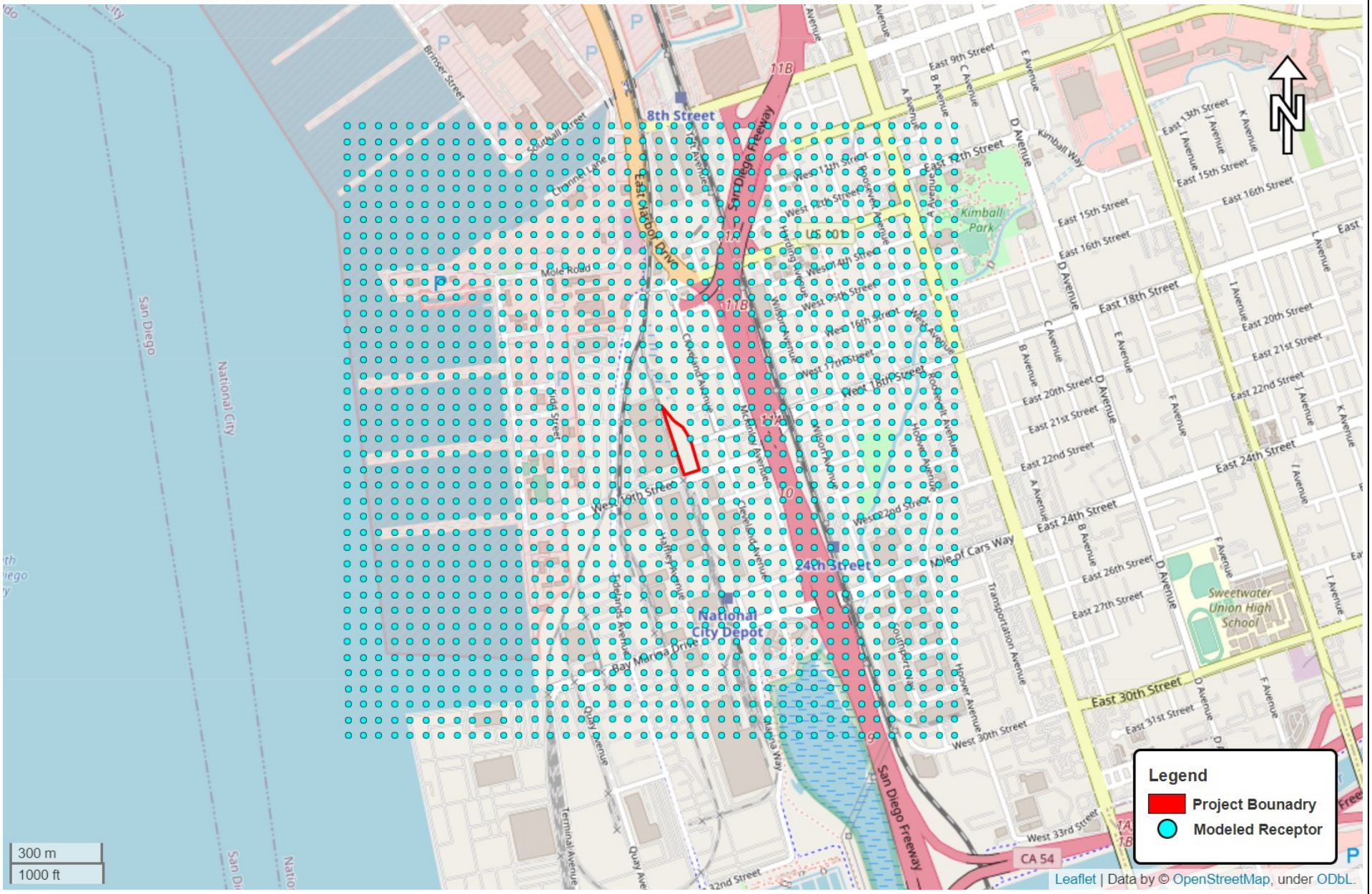
2021-285 San Diego Clean Fuels Terminal



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure B-2. Surface Station Location

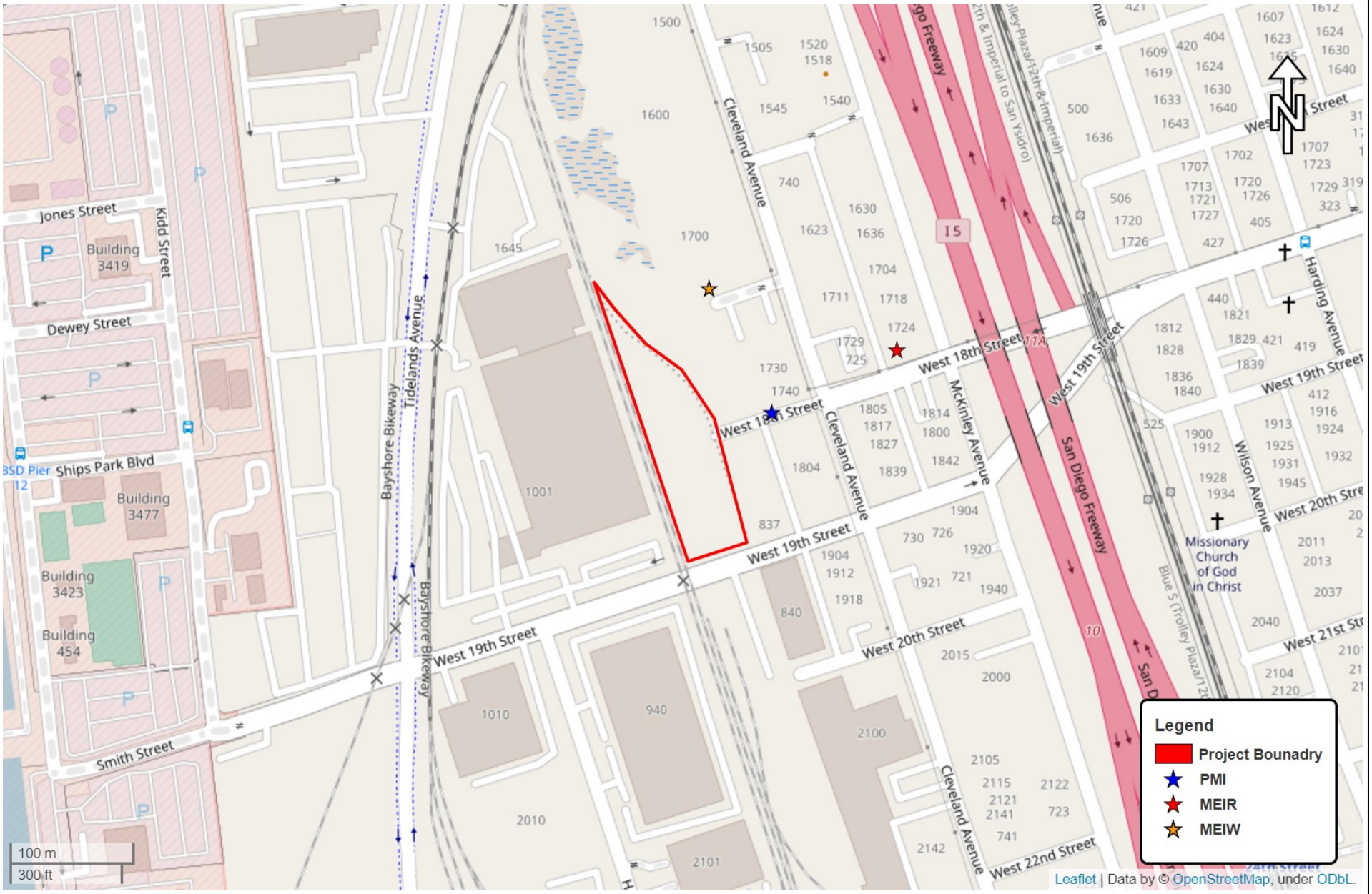
2021-285 San Diego Clean Fuels Terminal



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Figure B-3. Modeled Receptor Locations

2021-285 San Diego Clean Fuels Terminal



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Figure B-4. PMI, MEIR, MEIW Locations

2021-285 San Diego Clean Fuels Terminal

ATTACHMENT C

CalEEMod Output Files – Greenhouse Gas Emissions

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

National City Transloading

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	218.00	1000sqft	5.00	218,000.00	15

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	539.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Not a lot of structures, primaraly tanks and pads.

Construction Phase - Vacant lot; no demolition needed.

Off-road Equipment - No demolition needed.

Grading - Assumes a 5 acre lot.

Architectural Coating - Rule 67 Paint
Building Area adjusted per applicant information

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	109,000.00	50,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	327,000.00	50,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblArchitecturalCoating	EF_Parking	250.00	50.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	230.00	110.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	8.00	42.00
tblConstructionPhase	NumDays	18.00	21.00
tblConstructionPhase	NumDays	5.00	42.00
tblGrading	AcresOfGrading	42.00	5.00
tblGrading	AcresOfGrading	63.00	5.00
tblLandUse	Population	0.00	15.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2023	0.3827	1.9512	1.9049	3.9700e-003	0.5736	0.0875	0.6611	0.2955	0.0814	0.3769	0.0000	351.6005	351.6005	0.0787	6.8500e-003	355.6073
Maximum	**0.3827**	**1.9512**	**1.9049**	**3.9700e-003**	**0.5736**	**0.0875**	**0.6611**	**0.2955**	**0.0814**	**0.3769**	**0.0000**	**351.6005**	**351.6005**	**0.0787**	**6.8500e-003**	**355.6073**

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	0.3827	1.9512	1.9049	3.9700e-003	0.5736	0.0875	0.6611	0.2955	0.0814	0.3769	0.0000	351.6001	351.6001	0.0787	6.8500e-003	355.6069
Maximum	**0.3827**	**1.9512**	**1.9049**	**3.9700e-003**	**0.5736**	**0.0875**	**0.6611**	**0.2955**	**0.0814**	**0.3769**	**0.0000**	**351.6001**	**351.6001**	**0.0787**	**6.8500e-003**	**355.6069**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	1.9158	1.9158
2	6-1-2023	8-31-2023	0.3975	0.3975
		Highest	1.9158	1.9158

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	1.1042	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-003
Energy	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	208.7469	208.7469	0.0120	1.7600e-003	209.5690
Mobile	0.1932	0.2205	1.8305	3.8800e-003	0.4143	3.0300e-003	0.4173	0.1106	2.8300e-003	0.1134	0.0000	364.4248	364.4248	0.0255	0.0163	369.9056
Waste						0.0000	0.0000		0.0000	0.0000	41.5969	0.0000	41.5969	2.4583	0.0000	103.0546
Water						0.0000	0.0000		0.0000	0.0000	15.9936	160.7778	176.7713	1.6525	0.0400	229.9979
Total	**1.2993**	**0.2382**	**1.8473**	**3.9900e-003**	**0.4143**	**4.3800e-003**	**0.4186**	**0.1106**	**4.1800e-003**	**0.1147**	**57.5905**	**733.9533**	**791.5438**	**4.1483**	**0.0580**	**912.5312**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1042	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-003
Energy	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	208.7469	208.7469	0.0120	1.7600e-003	209.5690
Mobile	0.1932	0.2205	1.8305	3.8800e-003	0.4143	3.0300e-003	0.4173	0.1106	2.8300e-003	0.1134	0.0000	364.4248	364.4248	0.0255	0.0163	369.9056
Waste						0.0000	0.0000		0.0000	0.0000	41.5969	0.0000	41.5969	2.4583	0.0000	103.0546
Water						0.0000	0.0000		0.0000	0.0000	15.9936	160.7778	176.7713	1.6525	0.0400	229.9979
Total	**1.2993**	**0.2382**	**1.8473**	**3.9900e-003**	**0.4143**	**4.3800e-003**	**0.4186**	**0.1106**	**4.1800e-003**	**0.1147**	**57.5905**	**733.9533**	**791.5438**	**4.1483**	**0.0580**	**912.5312**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	2/28/2023	5	0	No demo
2	Site Preparation	Site Preparation	3/1/2023	4/27/2023	5	42	
3	Grading	Grading	3/1/2023	4/27/2023	5	42	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	3/1/2023	8/1/2023	5	110	
5	Paving	Paving	3/1/2023	3/29/2023	5	21	
6	Architectural Coating	Architectural Coating	3/1/2023	3/29/2023	5	21	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 50,000; Non-Residential Outdoor: 50,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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			0.00	0.00	10.80	7.30				
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	36.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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					0.3820	0.0000	0.3820	0.2088	0.0000	0.2088	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0559	0.5780	0.3831	8.0000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	70.2465	70.2465	0.0227	0.0000	70.8144
Total	**0.0559**	**0.5780**	**0.3831**	**8.0000e-004**	**0.3820**	**0.0266**	**0.4086**	**0.2088**	**0.0245**	**0.2333**	**0.0000**	**70.2465**	**70.2465**	**0.0227**	**0.0000**	**70.8144**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	1.0200e-003	7.1000e-004	8.6400e-003	3.0000e-005	3.0300e-003	2.0000e-005	3.0500e-003	8.1000e-004	2.0000e-005	8.2000e-004	0.0000	2.4287	2.4287	7.0000e-005	7.0000e-005	2.4504
Total	**1.0200e-003**	**7.1000e-004**	**8.6400e-003**	**3.0000e-005**	**3.0300e-003**	**2.0000e-005**	**3.0500e-003**	**8.1000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.4287**	**2.4287**	**7.0000e-005**	**7.0000e-005**	**2.4504**

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					0.3820	0.0000	0.3820	0.2088	0.0000	0.2088	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0559	0.5780	0.3831	8.0000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	70.2464	70.2464	0.0227	0.0000	70.8144
Total	**0.0559**	**0.5780**	**0.3831**	**8.0000e-004**	**0.3820**	**0.0266**	**0.4086**	**0.2088**	**0.0245**	**0.2333**	**0.0000**	**70.2464**	**70.2464**	**0.0227**	**0.0000**	**70.8144**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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	1.0200e-003	7.1000e-004	8.6400e-003	3.0000e-005	3.0300e-003	2.0000e-005	3.0500e-003	8.1000e-004	2.0000e-005	8.2000e-004	0.0000	2.4287	2.4287	7.0000e-005	7.0000e-005	2.4504
Total	**1.0200e-003**	**7.1000e-004**	**8.6400e-003**	**3.0000e-005**	**3.0300e-003**	**2.0000e-005**	**3.0500e-003**	**8.1000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.4287**	**2.4287**	**7.0000e-005**	**7.0000e-005**	**2.4504**

3.4 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					0.1291	0.0000	0.1291	0.0698	0.0000	0.0698	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7273	54.7273	0.0177	0.0000	55.1698
Total	**0.0359**	**0.3767**	**0.3098**	**6.2000e-004**	**0.1291**	**0.0163**	**0.1454**	**0.0698**	**0.0150**	**0.0848**	**0.0000**	**54.7273**	**54.7273**	**0.0177**	**0.0000**	**55.1698**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	8.5000e-004	5.9000e-004	7.2000e-003	2.0000e-005	2.5300e-003	1.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0239	2.0239	6.0000e-005	6.0000e-005	2.0420
Total	**8.5000e-004**	**5.9000e-004**	**7.2000e-003**	**2.0000e-005**	**2.5300e-003**	**1.0000e-005**	**2.5400e-003**	**6.7000e-004**	**1.0000e-005**	**6.8000e-004**	**0.0000**	**2.0239**	**2.0239**	**6.0000e-005**	**6.0000e-005**	**2.0420**

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					0.1291	0.0000	0.1291	0.0698	0.0000	0.0698	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3767	0.3098	6.2000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	54.7272	54.7272	0.0177	0.0000	55.1697
Total	**0.0359**	**0.3767**	**0.3098**	**6.2000e-004**	**0.1291**	**0.0163**	**0.1454**	**0.0698**	**0.0150**	**0.0848**	**0.0000**	**54.7272**	**54.7272**	**0.0177**	**0.0000**	**55.1697**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 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	8.5000e-004	5.9000e-004	7.2000e-003	2.0000e-005	2.5300e-003	1.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0239	2.0239	6.0000e-005	6.0000e-005	2.0420
Total	**8.5000e-004**	**5.9000e-004**	**7.2000e-003**	**2.0000e-005**	**2.5300e-003**	**1.0000e-005**	**2.5400e-003**	**6.7000e-004**	**1.0000e-005**	**6.8000e-004**	**0.0000**	**2.0239**	**2.0239**	**6.0000e-005**	**6.0000e-005**	**2.0420**

3.5 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	0.0865	0.7912	0.8934	1.4800e-003		0.0385	0.0385		0.0362	0.0362	0.0000	127.4926	127.4926	0.0303	0.0000	128.2508
Total	**0.0865**	**0.7912**	**0.8934**	**1.4800e-003**		**0.0385**	**0.0385**		**0.0362**	**0.0362**	**0.0000**	**127.4926**	**127.4926**	**0.0303**	**0.0000**	**128.2508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	2.3200e-003	0.0879	0.0310	4.1000e-004	0.0132	5.2000e-004	0.0137	3.8000e-003	5.0000e-004	4.2900e-003	0.0000	39.7288	39.7288	1.2000e-003	5.7600e-003	41.4743
Worker	0.0137	9.4800e-003	0.1156	3.5000e-004	0.0406	2.2000e-004	0.0408	0.0108	2.1000e-004	0.0110	0.0000	32.5107	32.5107	9.5000e-004	9.0000e-004	32.8015
Total	**0.0160**	**0.0974**	**0.1466**	**7.6000e-004**	**0.0537**	**7.4000e-004**	**0.0545**	**0.0146**	**7.1000e-004**	**0.0153**	**0.0000**	**72.2395**	**72.2395**	**2.1500e-003**	**6.6600e-003**	**74.2758**

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	0.0865	0.7912	0.8934	1.4800e-003		0.0385	0.0385		0.0362	0.0362	0.0000	127.4925	127.4925	0.0303	0.0000	128.2507
Total	**0.0865**	**0.7912**	**0.8934**	**1.4800e-003**		**0.0385**	**0.0385**		**0.0362**	**0.0362**	**0.0000**	**127.4925**	**127.4925**	**0.0303**	**0.0000**	**128.2507**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 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	2.3200e-003	0.0879	0.0310	4.1000e-004	0.0132	5.2000e-004	0.0137	3.8000e-003	5.0000e-004	4.2900e-003	0.0000	39.7288	39.7288	1.2000e-003	5.7600e-003	41.4743
Worker	0.0137	9.4800e-003	0.1156	3.5000e-004	0.0406	2.2000e-004	0.0408	0.0108	2.1000e-004	0.0110	0.0000	32.5107	32.5107	9.5000e-004	9.0000e-004	32.8015
Total	**0.0160**	**0.0974**	**0.1466**	**7.6000e-004**	**0.0537**	**7.4000e-004**	**0.0545**	**0.0146**	**7.1000e-004**	**0.0153**	**0.0000**	**72.2395**	**72.2395**	**2.1500e-003**	**6.6600e-003**	**74.2758**

3.6 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	9.6400e-003	0.0923	0.1280	2.0000e-004		4.5700e-003	4.5700e-003		4.2300e-003	4.2300e-003	0.0000	17.1975	17.1975	5.4000e-003	0.0000	17.3326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6400e-003**	**0.0923**	**0.1280**	**2.0000e-004**		**4.5700e-003**	**4.5700e-003**		**4.2300e-003**	**4.2300e-003**	**0.0000**	**17.1975**	**17.1975**	**5.4000e-003**	**0.0000**	**17.3326**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 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	5.7000e-004	3.9000e-004	4.8000e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3493	1.3493	4.0000e-005	4.0000e-005	1.3613
Total	**5.7000e-004**	**3.9000e-004**	**4.8000e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3493**	**1.3493**	**4.0000e-005**	**4.0000e-005**	**1.3613**

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	9.6400e-003	0.0923	0.1280	2.0000e-004		4.5700e-003	4.5700e-003		4.2300e-003	4.2300e-003	0.0000	17.1975	17.1975	5.4000e-003	0.0000	17.3326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.6400e-003**	**0.0923**	**0.1280**	**2.0000e-004**		**4.5700e-003**	**4.5700e-003**		**4.2300e-003**	**4.2300e-003**	**0.0000**	**17.1975**	**17.1975**	**5.4000e-003**	**0.0000**	**17.3326**

3.6 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	5.7000e-004	3.9000e-004	4.8000e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3493	1.3493	4.0000e-005	4.0000e-005	1.3613
Total	**5.7000e-004**	**3.9000e-004**	**4.8000e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3493**	**1.3493**	**4.0000e-005**	**4.0000e-005**	**1.3613**

3.7 Architectural Coating - 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					
Archit. Coating	0.1738					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0100e-003	0.0137	0.0190	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.6809	2.6809	1.6000e-004	0.0000	2.6849
Total	**0.1758**	**0.0137**	**0.0190**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.6000e-004**	**0.0000**	**2.6849**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	5.1000e-004	3.5000e-004	4.3200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2143	1.2143	4.0000e-005	3.0000e-005	1.2252
Total	**5.1000e-004**	**3.5000e-004**	**4.3200e-003**	**1.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5200e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2143**	**1.2143**	**4.0000e-005**	**3.0000e-005**	**1.2252**

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					
Archit. Coating	0.1738					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0100e-003	0.0137	0.0190	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.6809	2.6809	1.6000e-004	0.0000	2.6849
Total	**0.1758**	**0.0137**	**0.0190**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.6000e-004**	**0.0000**	**2.6849**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 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	5.1000e-004	3.5000e-004	4.3200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2143	1.2143	4.0000e-005	3.0000e-005	1.2252
Total	**5.1000e-004**	**3.5000e-004**	**4.3200e-003**	**1.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5200e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2143**	**1.2143**	**4.0000e-005**	**3.0000e-005**	**1.2252**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Mitigated	0.1932	0.2205	1.8305	3.8800e-003	0.4143	3.0300e-003	0.4173	0.1106	2.8300e-003	0.1134	0.0000	364.4248	364.4248	0.0255	0.0163	369.9056
Unmitigated	0.1932	0.2205	1.8305	3.8800e-003	0.4143	3.0300e-003	0.4173	0.1106	2.8300e-003	0.1134	0.0000	364.4248	364.4248	0.0255	0.0163	369.9056

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-Rail	379.32	379.32	379.32	1,107,429	1,107,429
Total	379.32	379.32	379.32	1,107,429	1,107,429

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
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	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
Unrefrigerated Warehouse-Rail	0.557888	0.062607	0.178921	0.119061	0.024112	0.006269	0.008734	0.006266	0.000708	0.000566	0.028949	0.000971	0.004949

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	189.5520	189.5520	0.0116	1.4000e-003	190.2600
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.5520	189.5520	0.0116	1.4000e-003	190.2600
NaturalGas Mitigated	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	19.1950	19.1950	3.7000e-004	3.5000e-004	19.3090
NaturalGas Unmitigated	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	19.1950	19.1950	3.7000e-004	3.5000e-004	19.3090

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Unrefrigerated Warehouse-Rail	359700	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	19.1950	19.1950	3.7000e-004	3.5000e-004	19.3090
Total		**1.9400e-003**	**0.0176**	**0.0148**	**1.1000e-004**		**1.3400e-003**	**1.3400e-003**		**1.3400e-003**	**1.3400e-003**	**0.0000**	**19.1950**	**19.1950**	**3.7000e-004**	**3.5000e-004**	**19.3090**

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					
Unrefrigerated Warehouse-Rail	359700	1.9400e-003	0.0176	0.0148	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	19.1950	19.1950	3.7000e-004	3.5000e-004	19.3090
Total		**1.9400e-003**	**0.0176**	**0.0148**	**1.1000e-004**		**1.3400e-003**	**1.3400e-003**		**1.3400e-003**	**1.3400e-003**	**0.0000**	**19.1950**	**19.1950**	**3.7000e-004**	**3.5000e-004**	**19.3090**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-Rail	773900	189.5520	0.0116	1.4000e-003	190.2600
Total		**189.5520**	**0.0116**	**1.4000e-003**	**190.2600**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-Rail	773900	189.5520	0.0116	1.4000e-003	190.2600
Total		**189.5520**	**0.0116**	**1.4000e-003**	**190.2600**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1042	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-003
Unmitigated	1.1042	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-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	0.2526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-003
Total	**1.1042**	**2.0000e-005**	**2.0000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.9000e-003**	**3.9000e-003**	**1.0000e-005**	**0.0000**	**4.1500e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.2526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	2.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9000e-003	3.9000e-003	1.0000e-005	0.0000	4.1500e-003
Total	**1.1042**	**2.0000e-005**	**2.0000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.9000e-003**	**3.9000e-003**	**1.0000e-005**	**0.0000**	**4.1500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	176.7713	1.6525	0.0400	229.9979
Unmitigated	176.7713	1.6525	0.0400	229.9979

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-Rail	50.4125 / 0	176.7713	1.6525	0.0400	229.9979
Total		**176.7713**	**1.6525**	**0.0400**	**229.9979**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-Rail	50.4125 / 0	176.7713	1.6525	0.0400	229.9979
Total		**176.7713**	**1.6525**	**0.0400**	**229.9979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.5969	2.4583	0.0000	103.0546
Unmitigated	41.5969	2.4583	0.0000	103.0546

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-Rail	204.92	41.5969	2.4583	0.0000	103.0546
Total		**41.5969**	**2.4583**	**0.0000**	**103.0546**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-Rail	204.92	41.5969	2.4583	0.0000	103.0546
Total		**41.5969**	**2.4583**	**0.0000**	**103.0546**

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation