Ottawa Business Center

ENERGY ANALYSIS

CITY OF VICTORVILLE

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LIST OF ABBREVIATED TERMS

(1)	Reference
AQIA	Air Quality Impact Analysis
BACM	Best Available Control Measures
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EIR	Environmental Impact Report
EMFAC	Emissions Factor
FERC	Federal Energy Regulatory Commission
GPA	General Plan Amendment
GS-1	General Service Rate Schedule
GWh	Gigawatt Hour
HHDT	Heavy-Heavy Duty
Hp-hr-gal	Horsepower-Hour Per Gallon
IEPR	Integrative Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Kilo-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
MDV	Medium Duty Trucks
MHDT	Medium-Heavy Duty Trucks
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
PG&E	Pacific Gas and Electric
Project	Ottawa Business Center
SCE	Southern California Edison
SDAB	San Diego Air Basin
SDG&E	San Diego Gas and Electric
sf	Square Feet

SoCalGas	Southern California Gas
SW Gas	Southwest Gas Company
TEA-21	Transportation Equity Act for the 21st Century
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Ottawa Business Center Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	5.0	*Less Than Significant*	*n/a*

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Ottawa Business Center (Project). The purpose of this report is to ensure that energy implication is considered by the City of Victorville, as the lead agency, and to quantify anticipated energy usage associated with construction of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 SITE LOCATION

The proposed project is located at the northwest corner of Hesperia Road and Ottawa Street in the City of Victorville, as shown on Exhibit 1-A. An industrial use is located to the south, residential uses located to the east across the Union Pacific railroad, and vacant land surrounds the Project site to the west and north. The Project Site is currently vacant. Per the City of Victorville General Plan designates the Project site or Heavy Industrial uses. The Heavy Industrial land use category refers to industrial and manufacturing uses that are more specialized in nature and require special consideration in terms of use of the property as well as impacts on adjacent properties (2).

1.2 PROJECT DESCRIPTION

The proposed Project consists of the following uses:

- 200,000 square feet (sf) of High-Cube Cold Storage warehouse use (20% of the total building sf)
- 796,520 sf of High-Cube Fulfillment Center Warehouse use (80% of the total building sf)

The Project is anticipated to be developed within a single phase with an anticipated opening year of 2024. Regional access to the Project site will be provided by the Interstate 15 (I-15) Freeway via Nisqualli Road. At the time this energy was prepared, the future tenants of the proposed Project were unknown.

This energy study is intended to describe energy usage associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week.

EXHIBIT 1-A: LOCATION MAP

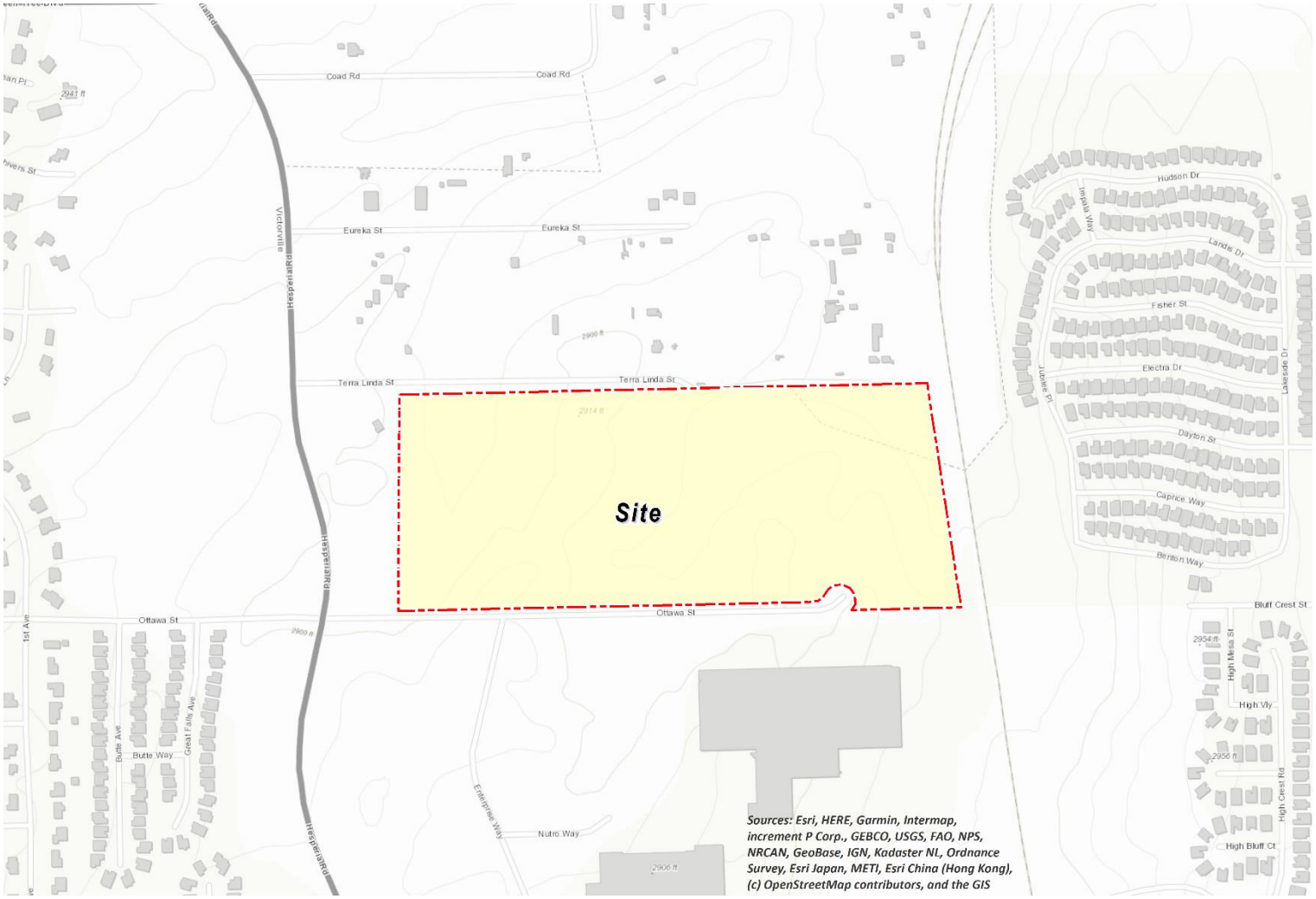
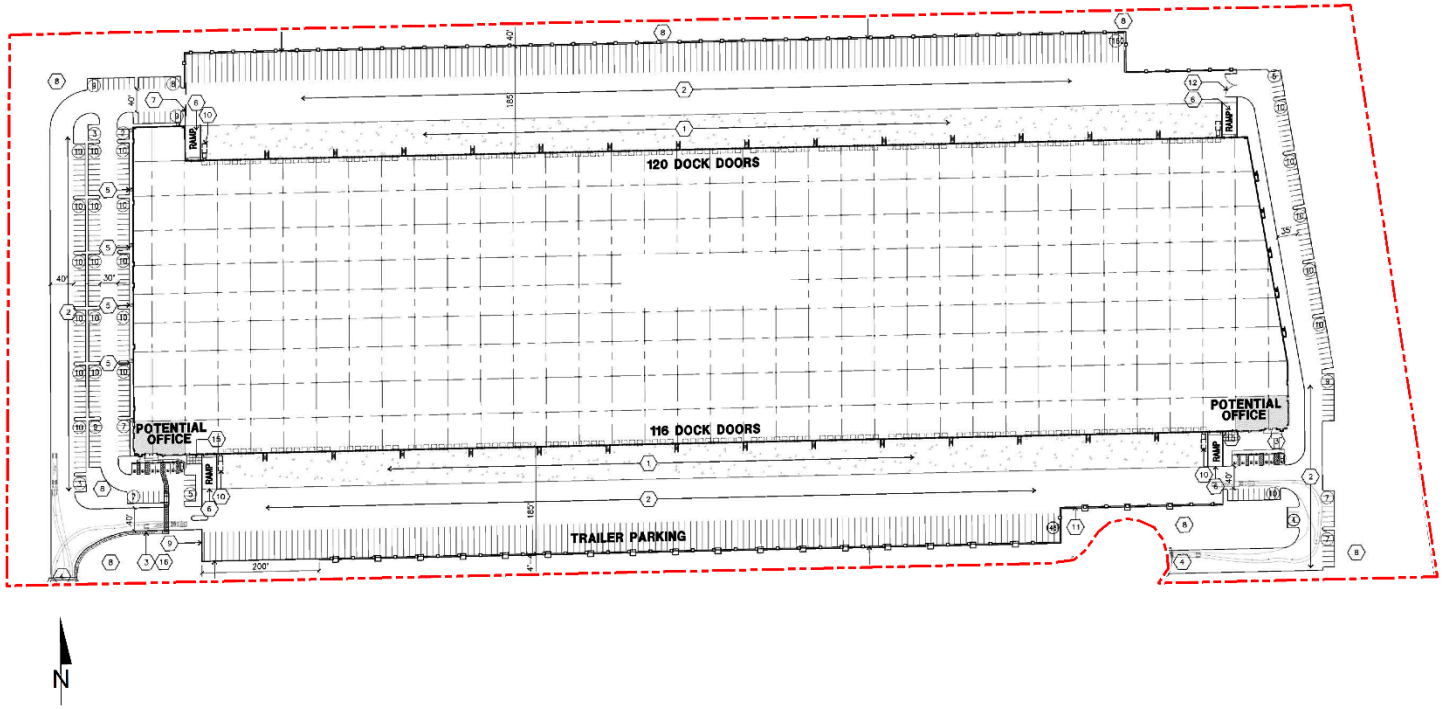


EXHIBIT 1-B: SITE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2019, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (3):

- As of 2019, approximately 7,802 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2019, approximately 662 million barrels of petroleum
- As of 2019, approximately 2,144 billion cubic feet of natural gas
- As of 2019, approximately 1 million short tons of coal

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2018-2030 lays out graphs and data supporting their projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (4)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (4)
- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2019 (5)

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.3% transportation
- Approximately 23.2% industrial
- Approximately 18.7% residential
- Approximately 18.9% commercial (6)

In 2020, total system electric generation for California was 272,576 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 190,913 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (15%) and the U.S. Southwest (15%) (7). Natural gas is the main source for electricity generation at 42.97% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix	Total California Power Mix
Coal	317	0.17%	194	6,963	7,157	8.76%	7,474	2.74%
Natural Gas	92,298	48.35%	70	8,654	8,724	10.68%	101,022	37.06%
Oil	30	0.02%	-	-	0	0.00%	30	0.01%
Other (Waste Heat/Petroleum Coke)	384	0.20%	125	9	134	0.16%	518	0.19%
Nuclear	16,280	8.53%	672	8,481	9,154	11.21%	25,434	9.33%
Large Hydro	17,938	9.40%	14,078	1,259	15,337	18.78%	33,275	12.21%
Unspecified	-	0.00%	12,870	1,745	14,615	17.90%	14,615	5.36%
Non-Renewable and Unspecified Totals	127,248	66.65%	28,009	27,111	55,120	67.50%	182,368	66.91%
Biomass	5,680	2.97%	975	25	1,000	1.22%	6,679	2.45%
Geothermal	11,345	5.94%	166	1,825	1,991	2.44%	13,336	4.89%
Small Hydro	3,476	1.82%	320	2	322	0.39%	3,798	1.39%
Solar	29,456	15.43%	284	6,312	6,596	8.08%	36,052	13.23%
Wind	13,708	7.18%	11,438	5,197	16,635	20.37%	30,343	11.13%
Renewable Totals	63,665	33.35%	13,184	13,359	26,543	32.50%	90,208	33.09%
System Totals	***190,913***	***100.00%***	***41,193***	***40,471***	***81,663***	***100.00%***	***272,576***	***100.00%***

Source: California Energy Commission's 2020 Total System Electric Generation

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (8):

- California was the seventh-largest producer of crude oil among the 50 states in 2019, and, as of January 2020, it ranked third in oil refining capacity. Foreign suppliers, led by Saudi Arabia, Iraq, Ecuador, and Colombia, provided more than half of the crude oil refined in California in 2019.
- California is the largest consumer of both jet fuel and motor gasoline among the 50 states and accounted for 17% of the nation's jet fuel consumption and 11% of motor gasoline consumption in 2019. The state is the second-largest consumer of all petroleum products combined, accounting for 10% of the U.S. total. In 2018, California's energy consumption was the second highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs.
- In 2019, California was the nation's top producer of electricity from solar, geothermal, and biomass energy and the state was second in the nation in conventional hydroelectric power generation.
- In 2019, California was the fourth largest electricity producer in the nation, but the state was also the nation's largest importer of electricity and received about 28% of its electricity supply from generating facilities outside of California, including imports from Mexico.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California ISO studies revealed the extent to which the Mojave Desert Air Basin (MDAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (9). Similarly, the subsequent 2018 and 2019 IEPR's identify broad strategies that are aimed at maintaining electricity system reliability.

Electricity is currently provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (10).

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (11).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Tables 2-2 identifies SCE's specific proportional shares of electricity sources in 2020. As indicated in Table 2-2, the 2020 SCE Power Mix has renewable energy at 30.9% of the overall energy resources. Geothermal resources are at 5.5%, wind power is at 9.4%, large hydroelectric sources are at 3.3%, solar energy is at 15.1%, and coal is at 0% (12).

TABLE 2-2: SCE 2020 POWER CONTENT MIX

Energy Resources	2020 SCE Power Mix
Eligible Renewable	**30.9%**
Biomass & Waste	0.1%
Geothermal	5.5%
Eligible Hydroelectric	0.8%
Solar	15.1%
Wind	9.4%
Coal	**0.0%**
Large Hydroelectric	**3.3%**
Natural Gas	**15.2%**
Nuclear	**8.4%**
Other	**0.3%**
Unspecified Sources of power*	42.0%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The following summary of natural gas customers and volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.*
>
> *The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.*

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e. they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet

California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements .

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A

certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (13)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Natural gas is currently provided to the Project by Southwest Gas Company (SW Gas). SW Gas is engaged in the business of purchasing, distributing, and transporting natural gas in portions of Arizona, California, and Nevada, serving over 2 million customers. SW Gas serves customers in portions of California, including the Lake Tahoe area, and the high desert and mountain areas in San Bernardino County. It is an energy infrastructure holding company that conducts high-quality operations in both regulated and unregulated businesses by providing clean and affordable natural gas services and building energy infrastructure.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. The Department of Motor Vehicles (DMV)

identified 35.8 million registered vehicles in California (14), and those vehicles consume an estimated 17.4 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 26.4 million passenger vehicles and light trucks, and almost 8.8 million medium- and heavy-duty vehicles (14). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (15).

California accounts for less than 1% of total U.S. natural gas reserves and production. As with crude oil, California's natural gas production has experienced a gradual decline since 1985. In 2019, about 37% of the natural gas delivered to consumers went to the state's industrial sector, and about 28% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the state's utility-scale electricity generation in 2019. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1% (15).

[1] Fuel consumptions estimated utilizing information from EMFAC2017.

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

The ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

The TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2020 IEPR was adopted March 23, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2020 IEPR identifies actions the

state and others can take to ensure a clean, affordable, and reliable energy system. California's innovative energy policies strengthen energy resiliency, reduce greenhouse gas (GHG) emissions that cause climate change, improve air quality, and contribute to a more equitable future (16).

3.2.2 STATE OF CALIFORNIA ENERGY PLAN

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that nonresidential buildings would use approximately 30% less energy due to lighting upgrades compared to the prior code (17).

3.2.4 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

California AB 1493, enacted on July 22, 2002, required California Air Resources Board (CARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD

First established in 2002 under Senate Bill (SB) 1078, California's RPS requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020 (18).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 **(SB 350)**

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target would be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western U.S. (California Leginfo 2015).

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

Per Appendix F of the *State CEQA Guidelines* (19), states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

In compliance with Appendix G of the *State CEQA Guidelines* (20), this report analyzes the project's anticipated energy use during construction and operations to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.2 METHODOLOGY

Information from the CalEEMod Version 2020.4.0 outputs for the *Ottawa Business Center Air Quality Impact Analysis* (AQIA) (21) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

In May 2021, the Southern California Air Quality Management District (SCAQMD), in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2020.4.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage (22). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Output from the annual model runs are provided in Appendix 4.1 through Appendix 4.3.

4.2.2 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (23). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2017 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated

with vehicle usage during Project construction and operational activities. For purposes of analysis, the 2023 and 2024 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project.

4.3 CONSTRUCTION ENERGY DEMANDS

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project.

4.3.1 CONSTRUCTION POWER COST

The total Project construction power costs is the summation of the products of the area (sf) by the construction duration and the typical power cost.

CONSTRUCTION DURATION

Construction is expected to commence in June 2023 and will last through August 2024 (21). The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (24).

TABLE 4-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	06/01/2023	07/26/2023	40
Grading	07/27/2023	12/27/2023	110
Building Construction	12/28/2023	08/28/2024	175
Paving	05/16/2024	08/28/2024	75
Architectural Coating	01/18/2024	08/28/2024	160

PROJECT CONSTRUCTION POWER COST

The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.41, which was used to calculate the Project's total construction power cost (25). As shown on Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $76,308.37.

TABLE 4-2: CONSTRUCTION POWER COST

Land Use	**Power Cost** (per 1,000 SF of construction per month)	**Size** (1,000 SF)	**Construction Duration** (months)	**Project Construction Power Cost**
High-Cube Cold Storage	$2.41	200.000	14	$6,748.00
High-Cube Fulfillment	$2.41	796.520	14	$26,874.58
Parking	$2.41	133.859	14	$4,516.40
Other Asphalt Surfaces	$2.41	1,131.280	14	$38,169.39
CONSTRUCTION POWER COST				***$76,308.37***

4.3.2 CONSTRUCTION ELECTRICITY USAGE

The total Project construction electricity usage is the summation of the products of the power cost (estimated in Table 4-2) by the utility provider cost per kilowatt hour (kWh) of electricity.

PROJECT CONSTRUCTION ELECTRICITY USAGE

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (26). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 579,323 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
High-Cube Cold Storage	$0.13	51,230
High-Cube Fulfillment	$0.13	204,028
Parking	$0.13	34,288
Other Asphalt Surfaces	$0.13	289,777
CONSTRUCTION ELECTRICITY USAGE		***579,323***

4.3.3 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction.

CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4-4 would operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day. A summary of construction equipment assumptions by phase is provided at Table 4-4.

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	9	8
	Rubber Tired Dozers	6	8
Grading	Crawler Tractors	6	8
	Excavators	6	8
	Graders	3	8
	Rubber Tired Dozers	3	8
	Scrapers	6	8
Building Construction	Cranes	3	8
	Crawler Tractors	9	8
	Forklifts	9	8
	Generator Sets	3	8
	Welders	3	8
Paving	Pavers	6	8
	Paving Equipment	6	8
	Rollers	6	8
Architectural Coating	Air Compressors	3	8

PROJECT CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (27). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the Project area and region[2]. As presented in Table 4-5, Project construction activities would consume an estimated 284,705 gallons of diesel fuel.

[2] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Phase Name	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Site Preparation	40	Crawler Tractors	212	9	8	0.43	6,564	14,191
		Rubber Tired Dozers	247	6	8	0.40	4,742	10,254
Grading	110	Crawler Tractors	212	6	8	0.43	4,376	26,018
		Excavators	158	6	8	0.38	2,882	17,136
		Graders	187	3	8	0.41	1,840	10,941
		Rubber Tired Dozers	247	3	8	0.40	2,371	14,099
		Scrapers	367	6	8	0.48	8,456	50,277
Building Construction	175	Cranes	231	3	8	0.29	1,608	15,209
		Crawler Tractors	212	9	8	0.43	6,564	62,087
		Forklifts	89	9	8	0.20	1,282	12,123
		Generator Sets	84	3	8	0.74	1,492	14,112
		Welders	46	3	8	0.45	497	4,699
Paving	75	Pavers	130	6	8	0.42	2,621	10,625
		Paving Equipment	132	6	8	0.36	2,281	9,247
		Rollers	80	6	8	0.38	1,459	5,916
Architectural Coating	160	Air Compressors	78	3	8	0.48	899	7,771
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***284,705***

Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.4 CONSTRUCTION TRIPS AND VMT

Construction generates on-road vehicle emissions from vehicle usage for workers and vendors commuting to and from the site. The number of workers and vendor trips are presented below in Table 4-6. It should be noted that for vendor trips, specifically, CalEEMod only assigns Vendor Trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase Name	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	38	46	0
Grading	60	126	298
Building Construction	950	200	0
Paving	45	0	0
Architectural Coating	190	0	0

4.3.5 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 98,778 VMT during the 14 months of construction (21). Based on CalEEMod methodology, it is assumed that 50% of all worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[3]), and 25% are from light-duty-trucks (LDT2[4]). Data regarding Project related construction worker trips were based on CalEEMod defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2017 version of the EMFAC developed by CARB. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (23). EMFAC2017 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2023 through 2024 calendar years. Data from EMFAC2017 is shown in Appendix 4.4.

Table 4-7 provides an estimated annual fuel consumption resulting from LDAs related to the Project construction worker trips. Based on Table 4-7, it is estimated that 44,231 gallons of fuel would be consumed related to construction worker trips during full construction of the Project.

[3] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[4] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDA

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023						
Site Preparation	40	19	14.7	11,172	33.54	333
Grading	110	30	14.7	48,510	33.54	1,446
Building Construction	2	475	14.7	13,965	33.54	416
2024						
Building Construction	173	475	14.7	1,207,973	34.66	34,856
Paving	75	23	14.7	25,358	34.66	732
Architectural Coating	160	95	14.7	223,440	34.66	6,447
PROJECT CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION						***44,231***

Table 4-8 provides an estimated annual fuel consumption resulting from LDT1s related to the Project construction worker trips. Based on Table 4-8, it is estimated that 26,532 gallons of fuel would be consumed related to construction worker trips during full construction of the Project.

TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDT1

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023						
Site Preparation	40	10	14.7	5,880	28.13	209
Grading	110	15	14.7	24,255	28.13	862
Building Construction	2	238	14.7	6,997	28.13	249
2024						
Building Construction	173	238	14.7	605,258	29.01	20,864
Paving	75	12	14.7	13,230	29.01	456
Architectural Coating	160	48	14.7	112,896	29.01	3,892
PROJECT CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION						***26,532***

Table 4-9 provides an estimated annual fuel consumption resulting from LDT2s related to the Project construction worker trips. Based on Table 4-9, it is estimated that 28,015 gallons of fuel would be consumed related to construction worker trips during full construction of the Project.

TABLE 4-9: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES – LDT2

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023						
Site Preparation	40	10	14.7	5,880	26.46	222
Grading	110	15	14.7	24,255	26.46	917
Building Construction	2	238	14.7	6,997	26.46	264
2024						
Building Construction	173	238	14.7	605,258	27.48	22,022
Paving	75	12	14.7	13,230	27.48	481
Architectural Coating	160	48	14.7	112,896	27.48	4,108
PROJECT CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION						***28,015***

It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.6 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 131,500 VMT along area roadways for the Project over the duration of construction activity (21). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHDT), 50% are from heavy-heavy duty trucks (HHDT), and 100% of all hauling trips are from HHDTs. These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (21). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2017. EMFAC2017 was run for the MHDT and HHDT vehicle classes within the California sub-area for the 2023 through 2024 calendar years. Data from EMFAC2017 is shown in Appendix 4.4.

Based on Table 4-10, it is estimated that 19,460 gallons of fuel would be consumed related to construction vendor trips (MHDTs) during full construction of the Project.

TABLE 4-10: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES – MHDT

Phase Name	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023						
Site Preparation	40	23	6.9	6,348	8.86	717
Grading	110	63	6.9	47,817	8.86	5,398
Building Construction	2	100	6.9	1,380	8.86	156
2024						
Building Construction	173	100	6.9	119,370	9.05	13,190
Paving	75	0	6.9	0	9.05	0
Architectural Coating	160	0	6.9	0	9.05	0
PROJECT CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION						***19,460***

Tables 4-11 shows the estimated fuel economy of HHDTs accessing the Project site. Based on Tables 4-11, fuel consumption from construction vendor/hauling trips (HHDTs) would total approximately 112,040 gallons.

TABLE 4-11: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES – HHDT

Phase Name	Duration (Days)	Vendor/ Hauling Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor						
2023						
Site Preparation	40	23	6.9	6,348	7.39	859
Grading	110	63	6.9	47,817	7.39	6,471
Building Construction	2	100	6.9	1,380	7.39	187
2024						
Building Construction	173	100	6.9	119,370	7.56	15,797
Paving	75	0	6.9	0	7.56	0
Architectural Coating	160	0	6.9	0	7.56	0
Hauling						
2023						
Grading	110	298	20	655,600	7.39	88,726
PROJECT CONSTRUCTION VENDOR/HAULING (HHDT) FUEL CONSUMPTION						***112,040***

It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.5 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by passenger car and truck vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT.

As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2017 developed by CARB (23). EMFAC2017 was run for the San Bernardino (MD) area for the 2024 calendar year. Data from EMFAC2017 is shown in Appendix 4.4.

In order to account for the possibility of refrigerated uses (cold storage) that would be accommodated by the up to 200,000 sf of high-cube cold storage warehouse proposed, it is assumed that all trucks accessing this land use are presumed to also have transport refrigeration units (TRUs). Therefore, for modeling purposes 75 truck are assumed to be trucks with TRUs. TRUs are also accounted for during on-site and off-site travel. The TRU calculations are based on the 2017 Off-road Emissions model, version 1.0.1 (Orion), developed by the CARB.

It should be noted that the existing development energy demands were subtracted from the Project to determine the new energy demands from the proposed Project. As summarized on Table 4-12 the Project will result in 2,249,133 annual VMT and 227,282 gallons of fuel.

TABLE 4-12: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
LDA	2,746,774	34.66	79,259
LDT1	284,703	29.01	9,814
LDT2	877,284	27.48	31,920
MDV	693,315	21.86	31,719
MCY	127,218	39.18	3,247
LHDT1	944,179	14.46	65,311
LHDT2	254,890	15.30	16,657
MHDT	690,634	9.05	76,312
HHDT	4,522,606	7.56	598,496
TRUs	-	-	149
TOTAL (ALL VEHICLES)	***11,141,603***		***912,885***

4.4.2 FACILITY ENERGY DEMANDS

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by SW Gas; electricity would be supplied to the Project by SCE. Annual natural gas and electricity demands of the Project are summarized in Tables 4-13 and 4-14.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting (28). Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

TABLE 4-13: PROJECT ANNUAL OPERATIONAL NATURAL GAS DEMAND SUMMARY

Natural Gas Demand	kWh/year
High-Cube Cold Storage	10,346,000
High-Cube Fulfillment	1,601,010
Parking	0
Other Asphalt Surfaces	0
TOTAL PROJECT NATURAL GAS DEMAND	***11,947,010***

kBTU – kilo-British Thermal Units

TABLE 4-14: PROJECT ANNUAL OPERATIONAL ELECTRICITY DEMAND SUMMARY

Electricity Demand	kWh/year
High-Cube Cold Storage	7,968,000
High-Cube Fulfillment	1,847,930
Parking	46,851
Other Asphalt Surfaces	0
TOTAL PROJECT ELECTRICITY DEMAND	***9,862,781***

kBTU – kilo-British Thermal Units

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-12 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $76,308.37. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be approximately 579,323 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 284,705 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 98,778 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDTs and HHDTs) would total approximately 131,500 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2020 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (29). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 OPERATIONAL ENERGY DEMANDS

TRANSPORTATION ENERGY DEMANDS

Annual vehicular trips and related VMT generated by the operation of the Project would result in a fuel demand of 912,885 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial uses.

It should be noted that the state strategy for the transportation sector for medium and heavy-duty trucks is focused on making trucks more efficient and expediting truck turnover rather than reducing VMT from trucks. This is in contrast to the passenger vehicle component of the transportation sector where both per-capita VMT reductions and an increase in vehicle efficiency are forecasted to be needed to achieve the overall state emissions reductions goals.

Heavy duty trucks involved in goods movements are generally controlled on the technology side and through fleet turnover of older trucks and engines to newer and cleaner trucks and engines. The first battery-electric heavy-heavy duty trucks are being tested this year and MDAQMD is looking to integrate this new technology into large-scale truck operations. The following state strategies reduce GHG emissions from the medium and heavy-duty trucks:

- CARB's Mobile Source Strategy focuses on reducing GHGs through the transition to zero and low emission vehicles and from medium-duty and heavy-duty trucks.
- CARB's Sustainable Freight Action Plan establishes a goal to improve freight efficiency by 25 percent by 2030, deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- CARB's Emissions Reduction Plan for Ports and Goods Movement (Goods Movement Plan) in California focuses on reducing heavy-duty truck-related emissions focus on establishment of emissions standards for trucks, fleet turnover, truck retrofits, and restriction on truck idling (CARB 2006). While the focus of Goods Movement Plan is to reduce criteria air pollutant and air toxic emissions, the strategies to reduce these pollutants would also generally have a beneficial effect in reducing GHG emissions.
- CARB's On-Road Truck and Bus Regulation (2010) requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023 nearly all trucks and buses would need to have 2010 model year engines or equivalent (30).
- CARB's Heavy-Duty (Tractor-Trailer) GHG Regulation requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that would reduce fuel consumption and associated GHG emissions.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and City requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 11,947,010 kBTU/year of natural gas and 9,862,781 kWh/year of electricity. Natural gas would be supplied to the Project by SW Gas; electricity would be supplied by SCE. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial uses of similar scale and configuration.

Lastly, the Project would comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

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5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful, or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

5.2 ENERGY IMPACT 2

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by SCE. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2020 IEPR.

Additionally, the Project would comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2020 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Standards. It should be noted that the CEC anticipates that nonresidential buildings would use approximately 30% less energy compared to the prior code (17). As such, the CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30% in order to reflect consistency with the 2019 Title 24 standard.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's RPS is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected

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6 REFERENCES

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7 CERTIFICATIONS

The contents of this energy report represent an accurate depiction of the environmental impacts associated with the proposed Ottawa Business Center. The information contained in this energy report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – CARB • August, 2007
AB2588 Regulatory Standards – Trinity Consultants • November, 2006
Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 4.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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

Ottawa Business Center (Construction - Mitigated)

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	200.00	1000sqft	4.59	200,000.00	0
Unrefrigerated Warehouse-No Rail	796.52	1000sqft	18.29	796,520.00	0
Other Asphalt Surfaces	1,131.28	1000sqft	25.97	1,131,280.00	0
Parking Lot	641.00	Space	3.07	133,859.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	327.92	**CH4 Intensity (lb/MWhr)**	0.028	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors adjusted to reflect the RPS for the 2024 OPY

Land Use - Total Project area is 51.92 acres

Construction Phase - Construction anticipated to begin Summer 2023 and end Summer 2024

Off-road Equipment - Construction equipment adjusted based on the size of the Project

Off-road Equipment - Construction equipment adjusted based on the size of the Project

Off-road Equipment - Construction equipment adjusted based on the size of the Project

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Off-road Equipment - Construction equipment adjusted based on the size of the Project

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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

Trips and VMT - Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction

Grading - Analysis conservatively assumes that up to 10 acres can be disturbed per day

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - MM AQ-1: Tier 4 engines for all equipment operating at >150 HP during Grading

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	1,110.00	175.00
tblConstructionPhase	NumDays	75.00	160.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	2.37	0.00
tblEnergyUse	LightingElect	1.17	0.00
tblEnergyUse	NT24E	36.52	0.00
tblEnergyUse	NT24E	0.82	0.00

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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

tblEnergyUse	NT24NG	48.51	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.95	0.00
tblEnergyUse	T24E	0.33	0.00
tblEnergyUse	T24NG	3.22	0.00
tblEnergyUse	T24NG	1.98	0.00
tblGrading	AcresOfGrading	1,320.00	1,100.00
tblGrading	AcresOfGrading	300.00	400.00
tblGrading	MaterialImported	0.00	261,395.00
tblLandUse	LandUseSquareFeet	256,400.00	133,859.00
tblLandUse	LotAcreage	5.77	3.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

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

tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.028
tblProjectCharacteristics	CO2IntensityFactor	390.98	327.92
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.003
tblSolidWaste	SolidWasteGenerationRate	188.00	0.00
tblSolidWaste	SolidWasteGenerationRate	748.73	0.00
tblTripsAndVMT	VendorTripNumber	0.00	46.00
tblTripsAndVMT	VendorTripNumber	0.00	126.00
tblTripsAndVMT	VendorTripNumber	371.00	200.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00

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

tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	2.12	0.00
tblVehicleTrips	WD_TR	1.74	0.00
tblWater	IndoorWaterUseRate	46,250,000.00	0.00
tblWater	IndoorWaterUseRate	184,195,250.00	0.00

2.0 Emissions Summary

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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	0.8764	10.9542	6.2613	0.0254	2.9055	0.3746	3.2801	1.1356	0.3455	1.4810	0.0000	2,348.8186	2,348.8186	0.4509	0.1666	2,409.7498
2024	3.8685	8.6224	9.2682	0.0245	0.9137	0.3430	1.2567	0.2454	0.3206	0.5660	0.0000	2,201.8176	2,201.8176	0.3638	0.0633	2,229.7735
Maximum	**3.8685**	**10.9542**	**9.2682**	**0.0254**	**2.9055**	**0.3746**	**3.2801**	**1.1356**	**0.3455**	**1.4810**	**0.0000**	**2,348.8186**	**2,348.8186**	**0.4509**	**0.1666**	**2,409.7498**

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	0.4875	6.1189	7.1574	0.0254	2.9055	0.1773	3.0828	1.1356	0.1652	1.3008	0.0000	2,348.8171	2,348.8171	0.4509	0.1666	2,409.7483
2024	3.8048	7.7796	9.5279	0.0245	0.9137	0.3097	1.2233	0.2454	0.2901	0.5355	0.0000	2,201.8161	2,201.8161	0.3638	0.0633	2,229.7720
Maximum	**3.8048**	**7.7796**	**9.5279**	**0.0254**	**2.9055**	**0.3097**	**3.0828**	**1.1356**	**0.2901**	**1.3008**	**0.0000**	**2,348.8171**	**2,348.8171**	**0.4509**	**0.1666**	**2,409.7483**

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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	**9.54**	**29.00**	**-7.44**	**0.00**	**0.00**	**32.14**	**5.08**	**0.00**	**31.64**	**10.29**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2023**	**8-31-2023**	4.2313	2.6183
2	**9-1-2023**	**11-30-2023**	5.7376	2.9615
3	**12-1-2023**	**2-29-2024**	4.4612	3.3967
4	**3-1-2024**	**5-31-2024**	4.5650	4.2207
5	**6-1-2024**	**8-31-2024**	5.2734	4.9403
		Highest	5.7376	4.9403

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1747	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.1747**	**2.3000e-004**	**0.0254**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0495**	**0.0495**	**1.3000e-004**	**0.0000**	**0.0527**

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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	5.1747	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.1747**	**2.3000e-004**	**0.0254**	**0.0000**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0495**	**0.0495**	**1.3000e-004**	**0.0000**	**0.0527**

	ROG	NOx	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	Site Preparation	Site Preparation	6/1/2023	7/26/2023	5	40	
2	Grading	Grading	7/27/2023	12/27/2023	5	110	
3	Building Construction	Building Construction	12/28/2023	8/28/2024	5	175	

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

4	Architectural Coating	Architectural Coating	1/18/2024	8/28/2024	5	160	
5	Paving	Paving	5/16/2024	8/28/2024	5	75	

Acres of Grading (Site Preparation Phase): 400

Acres of Grading (Grading Phase): 1100

Acres of Paving: 29.04

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,494,780; Non-Residential Outdoor: 498,260; Striped Parking Area: 75,908 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	9	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	6	8.00	212	0.43
Grading	Excavators	6	8.00	158	0.38
Grading	Graders	3	8.00	187	0.41
Grading	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	6	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	3	8.00	231	0.29
Building Construction	Crawler Tractors	9	8.00	212	0.43
Building Construction	Forklifts	9	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	3	8.00	78	0.48
Paving	Pavers	6	8.00	130	0.42
Paving	Paving Equipment	6	8.00	132	0.36

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

Paving	Rollers	6	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	15	38.00	46.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	24	60.00	126.00	32,674.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	27	950.00	200.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	190.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 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					0.9348	0.0000	0.9348	0.4201	0.0000	0.4201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1621	1.7777	0.7766	2.4300e-003		0.0743	0.0743		0.0683	0.0683	0.0000	213.8498	213.8498	0.0692	0.0000	215.5788
Total	**0.1621**	**1.7777**	**0.7766**	**2.4300e-003**	**0.9348**	**0.0743**	**1.0090**	**0.4201**	**0.0683**	**0.4885**	**0.0000**	**213.8498**	**213.8498**	**0.0692**	**0.0000**	**215.5788**

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3.2 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	1.0600e-003	0.0352	0.0140	1.7000e-004	6.1400e-003	2.6000e-004	6.3900e-003	1.7700e-003	2.5000e-004	2.0200e-003	0.0000	16.8715	16.8715	4.4000e-004	2.4900e-003	17.6252
Worker	2.2100e-003	1.5600e-003	0.0192	5.0000e-005	6.1200e-003	3.0000e-005	6.1600e-003	1.6300e-003	3.0000e-005	1.6600e-003	0.0000	4.8172	4.8172	1.5000e-004	1.4000e-004	4.8630
Total	**3.2700e-003**	**0.0368**	**0.0332**	**2.2000e-004**	**0.0123**	**2.9000e-004**	**0.0126**	**3.4000e-003**	**2.8000e-004**	**3.6800e-003**	**0.0000**	**21.6887**	**21.6887**	**5.9000e-004**	**2.6300e-003**	**22.4882**

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					0.9348	0.0000	0.9348	0.4201	0.0000	0.4201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1235	1.3016	0.8636	2.4300e-003		0.0538	0.0538		0.0496	0.0496	0.0000	213.8495	213.8495	0.0692	0.0000	215.5786
Total	**0.1235**	**1.3016**	**0.8636**	**2.4300e-003**	**0.9348**	**0.0538**	**0.9885**	**0.4201**	**0.0496**	**0.4697**	**0.0000**	**213.8495**	**213.8495**	**0.0692**	**0.0000**	**215.5786**

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3.2 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	1.0600e-003	0.0352	0.0140	1.7000e-004	6.1400e-003	2.6000e-004	6.3900e-003	1.7700e-003	2.5000e-004	2.0200e-003	0.0000	16.8715	16.8715	4.4000e-004	2.4900e-003	17.6252
Worker	2.2100e-003	1.5600e-003	0.0192	5.0000e-005	6.1200e-003	3.0000e-005	6.1600e-003	1.6300e-003	3.0000e-005	1.6600e-003	0.0000	4.8172	4.8172	1.5000e-004	1.4000e-004	4.8630
Total	**3.2700e-003**	**0.0368**	**0.0332**	**2.2000e-004**	**0.0123**	**2.9000e-004**	**0.0126**	**3.4000e-003**	**2.8000e-004**	**3.6800e-003**	**0.0000**	**21.6887**	**21.6887**	**5.9000e-004**	**2.6300e-003**	**22.4882**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5953	0.0000	1.5953	0.6120	0.0000	0.6120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6447	6.8794	4.6325	0.0118		0.2756	0.2756		0.2536	0.2536	0.0000	1,036.5522	1,036.5522	0.3352	0.0000	1,044.9333
Total	**0.6447**	**6.8794**	**4.6325**	**0.0118**	**1.5953**	**0.2756**	**1.8709**	**0.6120**	**0.2536**	**0.8655**	**0.0000**	**1,036.5522**	**1,036.5522**	**0.3352**	**0.0000**	**1,044.9333**

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3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0381	1.9001	0.5513	9.1800e-003	0.2814	0.0189	0.3003	0.0773	0.0181	0.0954	0.0000	907.8549	907.8549	0.0387	0.1439	951.7038
Vendor	7.9700e-003	0.2652	0.1051	1.3100e-003	0.0462	1.9300e-003	0.0482	0.0133	1.8500e-003	0.0152	0.0000	127.0863	127.0863	3.3100e-003	0.0188	132.7634
Worker	9.6100e-003	6.7600e-003	0.0835	2.3000e-004	0.0266	1.4000e-004	0.0267	7.0600e-003	1.3000e-004	7.1900e-003	0.0000	20.9168	20.9168	6.5000e-004	6.1000e-004	21.1157
Total	**0.0557**	**2.1721**	**0.7399**	**0.0107**	**0.3542**	**0.0210**	**0.3752**	**0.0977**	**0.0201**	**0.1178**	**0.0000**	**1,055.8580**	**1,055.8580**	**0.0426**	**0.1633**	**1,105.5829**

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					1.5953	0.0000	1.5953	0.6120	0.0000	0.6120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2951	2.5308	5.4387	0.0118		0.0993	0.0993		0.0925	0.0925	0.0000	1,036.5510	1,036.5510	0.3352	0.0000	1,044.9320
Total	**0.2951**	**2.5308**	**5.4387**	**0.0118**	**1.5953**	**0.0993**	**1.6946**	**0.6120**	**0.0925**	**0.7044**	**0.0000**	**1,036.5510**	**1,036.5510**	**0.3352**	**0.0000**	**1,044.9320**

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3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0381	1.9001	0.5513	9.1800e-003	0.2814	0.0189	0.3003	0.0773	0.0181	0.0954	0.0000	907.8549	907.8549	0.0387	0.1439	951.7038
Vendor	7.9700e-003	0.2652	0.1051	1.3100e-003	0.0462	1.9300e-003	0.0482	0.0133	1.8500e-003	0.0152	0.0000	127.0863	127.0863	3.3100e-003	0.0188	132.7634
Worker	9.6100e-003	6.7600e-003	0.0835	2.3000e-004	0.0266	1.4000e-004	0.0267	7.0600e-003	1.3000e-004	7.1900e-003	0.0000	20.9168	20.9168	6.5000e-004	6.1000e-004	21.1157
Total	**0.0557**	**2.1721**	**0.7399**	**0.0107**	**0.3542**	**0.0210**	**0.3752**	**0.0977**	**0.0201**	**0.1178**	**0.0000**	**1,055.8580**	**1,055.8580**	**0.0426**	**0.1633**	**1,105.5829**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.6600e-003	0.0786	0.0520	1.3000e-004		3.3500e-003	3.3500e-003		3.1300e-003	3.1300e-003	0.0000	11.1808	11.1808	3.0200e-003	0.0000	11.2563
Total	**7.6600e-003**	**0.0786**	**0.0520**	**1.3000e-004**		**3.3500e-003**	**3.3500e-003**		**3.1300e-003**	**3.1300e-003**	**0.0000**	**11.1808**	**11.1808**	**3.0200e-003**	**0.0000**	**11.2563**

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3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	7.6500e-003	3.0300e-003	4.0000e-005	1.3300e-003	6.0000e-005	1.3900e-003	3.9000e-004	5.0000e-005	4.4000e-004	0.0000	3.6677	3.6677	1.0000e-004	5.4000e-004	3.8316
Worker	2.7700e-003	1.9400e-003	0.0240	6.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0300e-003	4.0000e-005	2.0700e-003	0.0000	6.0215	6.0215	1.9000e-004	1.8000e-004	6.0788
Total	**3.0000e-003**	**9.5900e-003**	**0.0271**	**1.0000e-004**	**8.9900e-003**	**1.0000e-004**	**9.0900e-003**	**2.4200e-003**	**9.0000e-005**	**2.5100e-003**	**0.0000**	**9.6892**	**9.6892**	**2.9000e-004**	**7.2000e-004**	**9.9103**

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	6.8700e-003	0.0680	0.0550	1.3000e-004		2.9300e-003	2.9300e-003		2.7400e-003	2.7400e-003	0.0000	11.1808	11.1808	3.0200e-003	0.0000	11.2563
Total	**6.8700e-003**	**0.0680**	**0.0550**	**1.3000e-004**		**2.9300e-003**	**2.9300e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**11.1808**	**11.1808**	**3.0200e-003**	**0.0000**	**11.2563**

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3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	7.6500e-003	3.0300e-003	4.0000e-005	1.3300e-003	6.0000e-005	1.3900e-003	3.9000e-004	5.0000e-005	4.4000e-004	0.0000	3.6677	3.6677	1.0000e-004	5.4000e-004	3.8316
Worker	2.7700e-003	1.9400e-003	0.0240	6.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0300e-003	4.0000e-005	2.0700e-003	0.0000	6.0215	6.0215	1.9000e-004	1.8000e-004	6.0788
Total	**3.0000e-003**	**9.5900e-003**	**0.0271**	**1.0000e-004**	**8.9900e-003**	**1.0000e-004**	**9.0900e-003**	**2.4200e-003**	**9.0000e-005**	**2.5100e-003**	**0.0000**	**9.6892**	**9.6892**	**2.9000e-004**	**7.2000e-004**	**9.9103**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6247	6.3122	4.4447	0.0112		0.2621	0.2621		0.2444	0.2444	0.0000	967.4038	967.4038	0.2606	0.0000	973.9180
Total	**0.6247**	**6.3122**	**4.4447**	**0.0112**		**0.2621**	**0.2621**		**0.2444**	**0.2444**	**0.0000**	**967.4038**	**967.4038**	**0.2606**	**0.0000**	**973.9180**

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3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6682	0.2579	3.2200e-003	0.1154	4.7500e-003	0.1202	0.0333	4.5400e-003	0.0379	0.0000	312.8926	312.8926	8.0000e-003	0.0462	326.8639
Worker	0.2224	0.1497	1.9419	5.4500e-003	0.6622	3.3000e-003	0.6655	0.1759	3.0400e-003	0.1789	0.0000	509.7597	509.7597	0.0147	0.0142	514.3500
Total	**0.2418**	**0.8179**	**2.1998**	**8.6700e-003**	**0.7776**	**8.0500e-003**	**0.7857**	**0.2092**	**7.5800e-003**	**0.2168**	**0.0000**	**822.6523**	**822.6523**	**0.0227**	**0.0604**	**841.2140**

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	0.5610	5.4695	4.7044	0.0112		0.2287	0.2287		0.2139	0.2139	0.0000	967.4027	967.4027	0.2606	0.0000	973.9168
Total	**0.5610**	**5.4695**	**4.7044**	**0.0112**		**0.2287**	**0.2287**		**0.2139**	**0.2139**	**0.0000**	**967.4027**	**967.4027**	**0.2606**	**0.0000**	**973.9168**

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3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6682	0.2579	3.2200e-003	0.1154	4.7500e-003	0.1202	0.0333	4.5400e-003	0.0379	0.0000	312.8926	312.8926	8.0000e-003	0.0462	326.8639
Worker	0.2224	0.1497	1.9419	5.4500e-003	0.6622	3.3000e-003	0.6655	0.1759	3.0400e-003	0.1789	0.0000	509.7597	509.7597	0.0147	0.0142	514.3500
Total	**0.2418**	**0.8179**	**2.1998**	**8.6700e-003**	**0.7776**	**8.0500e-003**	**0.7857**	**0.2092**	**7.5800e-003**	**0.2168**	**0.0000**	**822.6523**	**822.6523**	**0.0227**	**0.0604**	**841.2140**

3.5 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0578	0.3900	0.5792	9.5000e-004		0.0195	0.0195		0.0195	0.0195	0.0000	81.7041	81.7041	4.6000e-003	0.0000	81.8191
Total	**2.8071**	**0.3900**	**0.5792**	**9.5000e-004**		**0.0195**	**0.0195**		**0.0195**	**0.0195**	**0.0000**	**81.7041**	**81.7041**	**4.6000e-003**	**0.0000**	**81.8191**

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

3.5 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0411	0.0277	0.3592	1.0100e-003	0.1225	6.1000e-004	0.1231	0.0325	5.6000e-004	0.0331	0.0000	94.2908	94.2908	2.7200e-003	2.6200e-003	95.1399
Total	**0.0411**	**0.0277**	**0.3592**	**1.0100e-003**	**0.1225**	**6.1000e-004**	**0.1231**	**0.0325**	**5.6000e-004**	**0.0331**	**0.0000**	**94.2908**	**94.2908**	**2.7200e-003**	**2.6200e-003**	**95.1399**

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	2.7492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0578	0.3900	0.5792	9.5000e-004		0.0195	0.0195		0.0195	0.0195	0.0000	81.7040	81.7040	4.6000e-003	0.0000	81.8190
Total	**2.8071**	**0.3900**	**0.5792**	**9.5000e-004**		**0.0195**	**0.0195**		**0.0195**	**0.0195**	**0.0000**	**81.7040**	**81.7040**	**4.6000e-003**	**0.0000**	**81.8190**

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

3.5 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0411	0.0277	0.3592	1.0100e-003	0.1225	6.1000e-004	0.1231	0.0325	5.6000e-004	0.0331	0.0000	94.2908	94.2908	2.7200e-003	2.6200e-003	95.1399
Total	**0.0411**	**0.0277**	**0.3592**	**1.0100e-003**	**0.1225**	**6.1000e-004**	**0.1231**	**0.0325**	**5.6000e-004**	**0.0331**	**0.0000**	**94.2908**	**94.2908**	**2.7200e-003**	**2.6200e-003**	**95.1399**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1112	1.0715	1.6454	2.5700e-003		0.0527	0.0527		0.0485	0.0485	0.0000	225.2985	225.2985	0.0729	0.0000	227.1201
Paving	0.0380					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1492**	**1.0715**	**1.6454**	**2.5700e-003**		**0.0527**	**0.0527**		**0.0485**	**0.0485**	**0.0000**	**225.2985**	**225.2985**	**0.0729**	**0.0000**	**227.1201**

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

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5700e-003	3.0700e-003	0.0399	1.1000e-004	0.0136	7.0000e-005	0.0137	3.6100e-003	6.0000e-005	3.6700e-003	0.0000	10.4681	10.4681	3.0000e-004	2.9000e-004	10.5624
Total	**4.5700e-003**	**3.0700e-003**	**0.0399**	**1.1000e-004**	**0.0136**	**7.0000e-005**	**0.0137**	**3.6100e-003**	**6.0000e-005**	**3.6700e-003**	**0.0000**	**10.4681**	**10.4681**	**3.0000e-004**	**2.9000e-004**	**10.5624**

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	0.1112	1.0715	1.6454	2.5700e-003		0.0527	0.0527		0.0485	0.0485	0.0000	225.2982	225.2982	0.0729	0.0000	227.1199
Paving	0.0380					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1492**	**1.0715**	**1.6454**	**2.5700e-003**		**0.0527**	**0.0527**		**0.0485**	**0.0485**	**0.0000**	**225.2982**	**225.2982**	**0.0729**	**0.0000**	**227.1199**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5700e-003	3.0700e-003	0.0399	1.1000e-004	0.0136	7.0000e-005	0.0137	3.6100e-003	6.0000e-005	3.6700e-003	0.0000	10.4681	10.4681	3.0000e-004	2.9000e-004	10.5624
Total	**4.5700e-003**	**3.0700e-003**	**0.0399**	**1.1000e-004**	**0.0136**	**7.0000e-005**	**0.0137**	**3.6100e-003**	**6.0000e-005**	**3.6700e-003**	**0.0000**	**10.4681**	**10.4681**	**3.0000e-004**	**2.9000e-004**	**10.5624**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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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	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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	5.1747	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527
Unmitigated	5.1747	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1987					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9737					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.3500e-003	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527
Total	**5.1747**	**2.3000e-004**	**0.0254**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0495**	**0.0495**	**1.3000e-004**	**0.0000**	**0.0527**

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	1.1987					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9737					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.3500e-003	2.3000e-004	0.0254	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0495	0.0495	1.3000e-004	0.0000	0.0527
Total	**5.1747**	**2.3000e-004**	**0.0254**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0495**	**0.0495**	**1.3000e-004**	**0.0000**	**0.0527**

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	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Ottawa Business Center (Construction - Mitigated) - San Bernardino-Mojave Desert County, Annual

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

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

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

Equipment Type	Number

11.0 Vegetation

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APPENDIX 4.2:

CALEEMOD ANNUAL OPERATIONAL EMISSIONS MODEL OUTPUTS (HIGH-CUBE FULFILLMENT CENTER WAREHOUSE)

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

Ottawa Businses Center (High-Cube Fulfillment Center Operations)

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	796.52	1000sqft	18.29	796,520.00	0
User Defined Industrial	796.52	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	327.92	**CH4 Intensity (lb/MWhr)**	0.028	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors adjusted to reflect the RPS for the 2024 OPY

Land Use -

Construction Phase - Operations run only

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Traffic Analysis

Fleet Mix - Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic Analysis

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	6/28/2023	5/31/2023
tblFleetMix	HHD	0.02	0.00

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

tblFleetMix	HHD	0.02	0.78
tblFleetMix	LDA	0.54	0.58
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.09
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.02
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.11
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.028

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

tblProjectCharacteristics	CO2IntensityFactor	390.98	327.92
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.003
tblVehicleTrips	CW_TL	9.50	40.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	1.74	1.49
tblVehicleTrips	ST_TR	0.00	0.32
tblVehicleTrips	SU_TR	1.74	1.65
tblVehicleTrips	SU_TR	0.00	0.36
tblVehicleTrips	WD_TR	1.74	1.75
tblVehicleTrips	WD_TR	0.00	0.38

2.0 Emissions Summary

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.0351	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303
Energy	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	360.3000	360.3000	0.0251	4.0800e-003	362.1438
Mobile	0.8508	10.5591	9.1616	0.0652	3.3334	0.1118	3.4452	0.9089	0.1067	1.0156	0.0000	6,343.3295	6,343.3295	0.2674	0.8260	6,596.1655
Waste						0.0000	0.0000		0.0000	0.0000	151.9854	0.0000	151.9854	8.9821	0.0000	376.5375
Water						0.0000	0.0000		0.0000	0.0000	58.4367	356.7438	415.1804	6.0325	0.1450	609.1973
Total	**4.8946**	**10.6378**	**9.2421**	**0.0656**	**3.3334**	**0.1178**	**3.4512**	**0.9089**	**0.1127**	**1.0216**	**210.4221**	**7,060.4017**	**7,270.8238**	**15.3071**	**0.9751**	**7,944.0744**

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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	4.0351	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303
Energy	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	360.3000	360.3000	0.0251	4.0800e-003	362.1438
Mobile	0.8508	10.5591	9.1616	0.0652	3.3334	0.1118	3.4452	0.9089	0.1067	1.0156	0.0000	6,343.3295	6,343.3295	0.2674	0.8260	6,596.1655
Waste						0.0000	0.0000		0.0000	0.0000	151.9854	0.0000	151.9854	8.9821	0.0000	376.5375
Water						0.0000	0.0000		0.0000	0.0000	58.4367	356.7438	415.1804	6.0325	0.1450	609.1973
Total	**4.8946**	**10.6378**	**9.2421**	**0.0656**	**3.3334**	**0.1178**	**3.4512**	**0.9089**	**0.1127**	**1.0216**	**210.4221**	**7,060.4017**	**7,270.8238**	**15.3071**	**0.9751**	**7,944.0744**

	ROG	NOx	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	6/1/2023	5/31/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

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	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

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

Unmitigated Construction Off-Site

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

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

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

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	0.8508	10.5591	9.1616	0.0652	3.3334	0.1118	3.4452	0.9089	0.1067	1.0156	0.0000	6,343.3295	6,343.3295	0.2674	0.8260	6,596.1655
Unmitigated	0.8508	10.5591	9.1616	0.0652	3.3334	0.1118	3.4452	0.9089	0.1067	1.0156	0.0000	6,343.3295	6,343.3295	0.2674	0.8260	6,596.1655

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	1,393.99	1,184.90	1310.36	3,947,682	3,947,682
User Defined Industrial	304.03	258.39	285.79	4,293,829	4,293,829
Total	1,698.02	1,443.29	1,596.15	8,241,511	8,241,511

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-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
User Defined Industrial	40.00	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.580800	0.060200	0.185500	0.146600	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026900	0.000000	0.000000

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

User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.085200	0.023000	0.108200	0.783600	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	274.8643	274.8643	0.0235	2.5100e-003	276.2004
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	274.8643	274.8643	0.0235	2.5100e-003	276.2004
NaturalGas Mitigated	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	85.4357	85.4357	1.6400e-003	1.5700e-003	85.9434
NaturalGas Unmitigated	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	85.4357	85.4357	1.6400e-003	1.5700e-003	85.9434

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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-No Rail	1.60101e+006	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	85.4357	85.4357	1.6400e-003	1.5700e-003	85.9434
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.6300e-003**	**0.0785**	**0.0659**	**4.7000e-004**		**5.9600e-003**	**5.9600e-003**		**5.9600e-003**	**5.9600e-003**	**0.0000**	**85.4357**	**85.4357**	**1.6400e-003**	**1.5700e-003**	**85.9434**

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-No Rail	1.60101e+006	8.6300e-003	0.0785	0.0659	4.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	85.4357	85.4357	1.6400e-003	1.5700e-003	85.9434
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.6300e-003**	**0.0785**	**0.0659**	**4.7000e-004**		**5.9600e-003**	**5.9600e-003**		**5.9600e-003**	**5.9600e-003**	**0.0000**	**85.4357**	**85.4357**	**1.6400e-003**	**1.5700e-003**	**85.9434**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.84793e+006	274.8643	0.0235	2.5100e-003	276.2004
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**274.8643**	**0.0235**	**2.5100e-003**	**276.2004**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.84793e+006	274.8643	0.0235	2.5100e-003	276.2004
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**274.8643**	**0.0235**	**2.5100e-003**	**276.2004**

6.0 Area Detail

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.0351	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303
Unmitigated	4.0351	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303

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	0.9230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1108					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3500e-003	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303
Total	**4.0351**	**1.3000e-004**	**0.0146**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0285**	**0.0285**	**7.0000e-005**	**0.0000**	**0.0303**

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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	0.9230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1108					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3500e-003	1.3000e-004	0.0146	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0285	0.0285	7.0000e-005	0.0000	0.0303
Total	**4.0351**	**1.3000e-004**	**0.0146**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0285**	**0.0285**	**7.0000e-005**	**0.0000**	**0.0303**

7.0 Water Detail

7.1 Mitigation Measures Water

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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	415.1804	6.0325	0.1450	609.1973
Unmitigated	415.1804	6.0325	0.1450	609.1973

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	184.195 / 0	415.1804	6.0325	0.1450	609.1973
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**415.1804**	**6.0325**	**0.1450**	**609.1973**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	184.195 / 0	415.1804	6.0325	0.1450	609.1973
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**415.1804**	**6.0325**	**0.1450**	**609.1973**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	151.9854	8.9821	0.0000	376.5375
Unmitigated	151.9854	8.9821	0.0000	376.5375

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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-No Rail	748.73	151.9854	8.9821	0.0000	376.5375
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**151.9854**	**8.9821**	**0.0000**	**376.5375**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	748.73	151.9854	8.9821	0.0000	376.5375
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**151.9854**	**8.9821**	**0.0000**	**376.5375**

9.0 Operational Offroad

Ottawa Businses Center (High-Cube Fulfillment Center Operations) - San Bernardino-Mojave Desert County, Annual

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

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

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APPENDIX 4.3:

CALEEMOD ANNUAL OPERATIONAL EMISSIONS MODEL OUTPUTS (HIGH-CUBE COLD STORAGE WAREHOUSE)

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

Ottawa Business Center (High-Cube Cold Storage Operations)

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	200.00	1000sqft	4.59	200,000.00	0
User Defined Industrial	200.00	User Defined Unit	0.00	0.00	0
Other Asphalt Surfaces	1,131.28	1000sqft	25.97	1,131,280.00	0
Parking Lot	641.00	Space	3.07	133,859.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	327.92	**CH4 Intensity (lb/MWhr)**	0.028	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors adjusted to reflect the RPS for the 2024 OPY

Land Use - Total Project area (without High-Cube Fulfillment Center) is 33.63 acres

Construction Phase - Operations run only

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Traffic Analysis

Operational Off-Road Equipment - Based on SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Busniess Survey Results (2014)

Fleet Mix - Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic Analysis

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.55
tblFleetMix	LDA	0.54	0.58
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.27
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.07
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.11
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	256,400.00	133,859.00

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

tblLandUse	LotAcreage	5.77	3.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.028
tblProjectCharacteristics	CO2IntensityFactor	390.98	327.92
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.003
tblVehicleTrips	CW_TL	9.50	40.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.12	1.17
tblVehicleTrips	ST_TR	0.00	0.64
tblVehicleTrips	SU_TR	2.12	1.30
tblVehicleTrips	SU_TR	0.00	0.71
tblVehicleTrips	WD_TR	2.12	1.38
tblVehicleTrips	WD_TR	0.00	0.75

2.0 Emissions Summary

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1405	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414
Energy	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	1,744.2470	1,744.2470	0.1124	0.0210	1,753.3228
Mobile	0.2384	4.4560	2.6281	0.0252	1.2068	0.0448	1.2516	0.3342	0.0428	0.3769	0.0000	2,440.8847	2,440.8847	0.0843	0.3139	2,536.5260
Offroad	0.0798	0.7103	0.5484	2.3100e-003		0.0260	0.0260		0.0239	0.0239	0.0000	203.0779	203.0779	0.0657	0.0000	204.7199
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	89.5756	104.2486	1.5147	0.0364	152.9647
Total	**1.5144**	**5.6737**	**3.6225**	**0.0305**	**1.2068**	**0.1093**	**1.3161**	**0.3342**	**0.1052**	**0.4394**	**52.8353**	**4,477.8240**	**4,530.6593**	**4.0325**	**0.3713**	**4,742.1202**

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	1.1405	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414
Energy	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	1,744.2470	1,744.2470	0.1124	0.0210	1,753.3228
Mobile	0.2384	4.4560	2.6281	0.0252	1.2068	0.0448	1.2516	0.3342	0.0428	0.3769	0.0000	2,440.8847	2,440.8847	0.0843	0.3139	2,536.5260
Offroad	0.0798	0.7103	0.5484	2.3100e-003		0.0260	0.0260		0.0239	0.0239	0.0000	203.0779	203.0779	0.0657	0.0000	204.7199
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	89.5756	104.2486	1.5147	0.0364	152.9647
Total	**1.5144**	**5.6737**	**3.6225**	**0.0305**	**1.2068**	**0.1093**	**1.3161**	**0.3342**	**0.1052**	**0.4394**	**52.8353**	**4,477.8240**	**4,530.6593**	**4.0325**	**0.3713**	**4,742.1202**

	ROG	NOx	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	6/1/2023	5/31/2023	5	0	

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 29.04

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

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	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

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

Unmitigated Construction Off-Site

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

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

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	0.2384	4.4560	2.6281	0.0252	1.2068	0.0448	1.2516	0.3342	0.0428	0.3769	0.0000	2,440.8847	2,440.8847	0.0843	0.3139	2,536.5260
Unmitigated	0.2384	4.4560	2.6281	0.0252	1.2068	0.0448	1.2516	0.3342	0.0428	0.3769	0.0000	2,440.8847	2,440.8847	0.0843	0.3139	2,536.5260

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	276.00	234.60	259.44	781,612	781,612
User Defined Industrial	150.00	127.50	141.00	2,118,480	2,118,480
Total	426.00	362.10	400.44	2,900,092	2,900,092

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
User Defined Industrial	40.00	7.30	7.30	100.00	0.00	0.00	100	0	0

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.580800	0.060200	0.185500	0.146600	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026900	0.000000	0.000000
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.273000	0.073700	0.106700	0.546600	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,192.1450	1,192.1450	0.1018	0.0109	1,197.9399
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,192.1450	1,192.1450	0.1018	0.0109	1,197.9399
NaturalGas Mitigated	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	552.1020	552.1020	0.0106	0.0101	555.3828
NaturalGas Unmitigated	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	552.1020	552.1020	0.0106	0.0101	555.3828

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.0346e+007	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	552.1020	552.1020	0.0106	0.0101	555.3828
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0558**	**0.5072**	**0.4260**	**3.0400e-003**		**0.0385**	**0.0385**		**0.0385**	**0.0385**	**0.0000**	**552.1020**	**552.1020**	**0.0106**	**0.0101**	**555.3828**

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.0346e+007	0.0558	0.5072	0.4260	3.0400e-003		0.0385	0.0385		0.0385	0.0385	0.0000	552.1020	552.1020	0.0106	0.0101	555.3828
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0558**	**0.5072**	**0.4260**	**3.0400e-003**		**0.0385**	**0.0385**		**0.0385**	**0.0385**	**0.0000**	**552.1020**	**552.1020**	**0.0106**	**0.0101**	**555.3828**

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	46850.6	6.9687	6.0000e-004	6.0000e-005	7.0025
Refrigerated Warehouse-No Rail	7.968e+006	1,185.1763	0.1012	0.0108	1,190.9374
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,192.1450**	**0.1018**	**0.0109**	**1,197.9399**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	46850.6	6.9687	6.0000e-004	6.0000e-005	7.0025
Refrigerated Warehouse-No Rail	7.968e+006	1,185.1763	0.1012	0.0108	1,190.9374
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**1,192.1450**	**0.1018**	**0.0109**	**1,197.9399**

6.0 Area Detail

6.1 Mitigation Measures Area

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	1.1405	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414
Unmitigated	1.1405	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414

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	0.2757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414
Total	**1.1405**	**1.8000e-004**	**0.0199**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0388**	**0.0388**	**1.0000e-004**	**0.0000**	**0.0414**

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	0.2757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.8000e-004	0.0199	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0388	0.0388	1.0000e-004	0.0000	0.0414
Total	**1.1405**	**1.8000e-004**	**0.0199**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0388**	**0.0388**	**1.0000e-004**	**0.0000**	**0.0414**

7.0 Water Detail

7.1 Mitigation Measures Water

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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	104.2486	1.5147	0.0364	152.9647
Unmitigated	104.2486	1.5147	0.0364	152.9647

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	46.25 / 0	104.2486	1.5147	0.0364	152.9647
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**104.2486**	**1.5147**	**0.0364**	**152.9647**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	46.25 / 0	104.2486	1.5147	0.0364	152.9647
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**104.2486**	**1.5147**	**0.0364**	**152.9647**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.1623	2.2553	0.0000	94.5455
Unmitigated	38.1623	2.2553	0.0000	94.5455

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

Ottawa Business Center (High-Cube Cold Storage Operations) - San Bernardino-Mojave Desert County, Annual

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	4	4.00	365	200	0.37	CNG

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

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/ Backhoes	0.0798	0.7103	0.5484	2.3100e-003		0.0260	0.0260		0.0239	0.0239	0.0000	203.0779	203.0779	0.0657	0.0000	204.7199
Total	**0.0798**	**0.7103**	**0.5484**	**2.3100e-003**		**0.0260**	**0.0260**		**0.0239**	**0.0239**	**0.0000**	**203.0779**	**203.0779**	**0.0657**	**0.0000**	**204.7199**

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

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APPENDIX 4.4:

EMFAC2017 MODEL OUTPUTS

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (MD)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (MD)	2023	HHDT	Aggregate	Aggregate	Gasoline	2.401326697	131072.9618	29.54616131	29546.16131	102669118.6	131072.9618	758627261.4	7.39	HHDT
San Bernardino (MD)	2023	HHDT	Aggregate	Aggregate	Diesel	14430.92026	758428061	102610.8361	102610836.1		758428061			
San Bernardino (MD)	2023	HHDT	Aggregate	Aggregate	Natural Gas	5.37028577	68127.39056	28.73625324	28736.25324		68127.39056			
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Gasoline	373604.6189	5206539135	159208.948	159208948	160220726.1	5206539135	5373598306	33.54	LDA
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Diesel	3679.245064	53059441.13	1011.778077	1011778.077		53059441.13			
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Electricity	7633.554803	113999730	0	0		113999730			
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Gasoline	40976.73837	509772450.5	18291.76531	18291765.31	18295927.46	509772450.5	514736446.7	28.13	LDT1
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Diesel	18.57884914	110505.0419	4.162145924	4162.145924		110505.0419			
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Electricity	307.9630377	4853491.1	0	0		4853491.1			
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Gasoline	125268.6909	1616918155	61853.31533	61853315.33	62149448.33	1616918155	1644308446	26.46	LDT2
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Diesel	775.0531319	11638968.74	296.1330024	296133.0024		11638968.74			
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Electricity	1373.727457	15751322.17	0	0		15751322.17			
San Bernardino (MD)	2023	LHDT1	Aggregate	Aggregate	Gasoline	10651.51086	116856871.5	11089.46274	11089462.74	17167189.25	116856871.5	244131537.7	14.22	LHDT1
San Bernardino (MD)	2023	LHDT1	Aggregate	Aggregate	Diesel	11209.32886	127274666.2	6077.726512	6077726.512		127274666.2			
San Bernardino (MD)	2023	LHDT2	Aggregate	Aggregate	Gasoline	1508.549584	16941215.92	1832.761235	1832761.235	4299903.595	16941215.92	64898851.08	15.09	LHDT2
San Bernardino (MD)	2023	LHDT2	Aggregate	Aggregate	Diesel	4173.349481	47957635.16	2467.14236	2467142.36		47957635.16			
San Bernardino (MD)	2023	MCY	Aggregate	Aggregate	Gasoline	20700.08804	94318545.73	2410.269196	2410269.196	2410269.196	94318545.73	94318545.73	39.13	MCY
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Gasoline	98766.74154	1227271358	58995.80009	58995800.09	60109223.17	1227271358	1268533000	21.10	MDV
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Diesel	2267.017131	31948536.36	1113.423074	1113423.074		31948536.36			
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Electricity	790.6656376	9313105.602	0	0		9313105.602			
San Bernardino (MD)	2023	MH	Aggregate	Aggregate	Gasoline	3018.82624	8104407.85	1611.080329	1611080.329	1901568.449	8104407.85	11309881.96	5.95	MH
San Bernardino (MD)	2023	MH	Aggregate	Aggregate	Diesel	1186.424067	3205474.113	290.4881207	290488.1207		3205474.113			
San Bernardino (MD)	2023	MHDT	Aggregate	Aggregate	Gasoline	963.9362319	24043088.86	4628.83471	4628834.71	11423444.31	24043088.86	101191336.5	8.86	MHDT
San Bernardino (MD)	2023	MHDT	Aggregate	Aggregate	Diesel	3424.211276	77148247.64	6794.609598	6794609.598		77148247.64			
San Bernardino (MD)	2023	OBUS	Aggregate	Aggregate	Gasoline	280.0617227	5886630.544	1153.770812	1153770.812	1337073.469	5886630.544	7443830.896	5.57	OBUS
San Bernardino (MD)	2023	OBUS	Aggregate	Aggregate	Diesel	68.67259267	1557200.352	183.3026578	183302.6578		1557200.352			
San Bernardino (MD)	2023	SBUS	Aggregate	Aggregate	Gasoline	53.52205694	1192126.695	117.1135125	117113.5125	957588.4309	1192126.695	7707265.165	8.05	SBUS
San Bernardino (MD)	2023	SBUS	Aggregate	Aggregate	Diesel	626.8679849	6515138.47	840.4749184	840474.9184		6515138.47			
San Bernardino (MD)	2023	UBUS	Aggregate	Aggregate	Gasoline	43.43718733	1577116.841	360.1534068	360153.4068	1132688.127	1577116.841	5059981.439	4.47	UBUS
San Bernardino (MD)	2023	UBUS	Aggregate	Aggregate	Diesel	1.336705286	40058.50974	6.60832954	6608.32954		40058.50974			
San Bernardino (MD)	2023	UBUS	Aggregate	Aggregate	Electricity	0.027468686	218.2808104	0	0		218.2808104			
San Bernardino (MD)	2023	UBUS	Aggregate	Aggregate	Natural Gas	77.77504486	3442587.808	765.9263907	765926.3907		3442587.808			

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (MD)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (MD)	2024	HHDT	Aggregate	Aggregate	Gasoline	2.411936038	146848.8148	32.07238753	32072.38753	102425220	146848.8148	773988049.6	7.56	HHDT
San Bernardino (MD)	2024	HHDT	Aggregate	Aggregate	Diesel	14891.66439	773765657.9	102361.8445	102361844.5		773765657.9			
San Bernardino (MD)	2024	HHDT	Aggregate	Aggregate	Natural Gas	5.952631547	75542.84895	31.30315624	31303.15624		75542.84895			
San Bernardino (MD)	2024	LDA	Aggregate	Aggregate	Gasoline	380539.0546	5272102136	156723.215	156723215	157749868.7	5272102136	5466931783	34.66	LDA
San Bernardino (MD)	2024	LDA	Aggregate	Aggregate	Diesel	3867.869746	55458394.59	1026.653705	1026653.705		55458394.59			
San Bernardino (MD)	2024	LDA	Aggregate	Aggregate	Electricity	9116.212598	139371251.8	0	0		139371251.8			
San Bernardino (MD)	2024	LDT1	Aggregate	Aggregate	Gasoline	41671.13361	517985496.6	18079.89017	18079890.17	18083770.87	517985496.6	524601539.5	29.01	LDT1
San Bernardino (MD)	2024	LDT1	Aggregate	Aggregate	Diesel	17.2635193	105229.5414	3.880706144	3880.706144		105229.5414			
San Bernardino (MD)	2024	LDT1	Aggregate	Aggregate	Electricity	405.1814569	6510813.339	0	0		6510813.339			
San Bernardino (MD)	2024	LDT2	Aggregate	Aggregate	Gasoline	126873.5527	1631292243	60207.41847	60207418.47	60514887.69	1631292243	1663173395	27.48	LDT2
San Bernardino (MD)	2024	LDT2	Aggregate	Aggregate	Diesel	842.4175208	12461585.77	307.4692228	307469.2228		12461585.77			
San Bernardino (MD)	2024	LDT2	Aggregate	Aggregate	Electricity	1720.680246	19419565.66	0	0		19419565.66			
San Bernardino (MD)	2024	LHDT1	Aggregate	Aggregate	Gasoline	10392.04276	114309276.2	10668.48463	10668484.63	16575169.8	114309276.2	239620249.6	14.46	LHDT1
San Bernardino (MD)	2024	LHDT1	Aggregate	Aggregate	Diesel	11118.64856	125310973.4	5906.685171	5906685.171		125310973.4			
San Bernardino (MD)	2024	LHDT2	Aggregate	Aggregate	Gasoline	1498.630702	16806991.79	1788.463642	1788463.642	4203533.895	16806991.79	64322047.67	15.30	LHDT2
San Bernardino (MD)	2024	LHDT2	Aggregate	Aggregate	Diesel	4181.119006	47515055.89	2415.070253	2415070.253		47515055.89			
San Bernardino (MD)	2024	MCY	Aggregate	Aggregate	Gasoline	20778.54181	92771089.49	2367.962465	2367962.465	2367962.465	92771089.49	92771089.49	39.18	MCY
San Bernardino (MD)	2024	MDV	Aggregate	Aggregate	Gasoline	98024.11078	1212580646	56427.91486	56427914.86	57550334.21	1212580646	1257931983	21.86	MDV
San Bernardino (MD)	2024	MDV	Aggregate	Aggregate	Diesel	2390.765011	33183469.37	1122.419348	1122419.348		33183469.37			
San Bernardino (MD)	2024	MDV	Aggregate	Aggregate	Electricity	1051.798802	12167867.44	0	0		12167867.44			
San Bernardino (MD)	2024	MH	Aggregate	Aggregate	Gasoline	2867.716615	7732448.794	1509.864204	1509864.204	1791985.355	7732448.794	10884469.96	6.07	MH
San Bernardino (MD)	2024	MH	Aggregate	Aggregate	Diesel	1179.218043	3152021.167	282.1211506	282121.1506		3152021.167			
San Bernardino (MD)	2024	MHDT	Aggregate	Aggregate	Gasoline	977.9867329	24607234.6	4629.816375	4629816.375	11438572.31	24607234.6	103521184.9	9.05	MHDT
San Bernardino (MD)	2024	MHDT	Aggregate	Aggregate	Diesel	3588.772527	78913950.31	6808.755935	6808755.935		78913950.31			
San Bernardino (MD)	2024	OBUS	Aggregate	Aggregate	Gasoline	279.044491	5818855.369	1115.246105	1115246.105	1301226.632	5818855.369	7426782.645	5.71	OBUS
San Bernardino (MD)	2024	OBUS	Aggregate	Aggregate	Diesel	71.37577825	1607927.276	185.9805272	185980.5272		1607927.276			
San Bernardino (MD)	2024	SBUS	Aggregate	Aggregate	Gasoline	61.14127279	1353195.11	130.7655694	130765.5694	969544.6828	1353195.11	7907632.547	8.16	SBUS
San Bernardino (MD)	2024	SBUS	Aggregate	Aggregate	Diesel	632.1054382	6554437.436	838.7791134	838779.1134		6554437.436			
San Bernardino (MD)	2024	UBUS	Aggregate	Aggregate	Gasoline	43.69197469	1586367.657	361.7100215	361710.0215	1139449.532	1586367.657	5089661.522	4.47	UBUS
San Bernardino (MD)	2024	UBUS	Aggregate	Aggregate	Diesel	1.301635371	39115.16558	6.482276253	6482.276253		39115.16558			
San Bernardino (MD)	2024	UBUS	Aggregate	Aggregate	Electricity	0.027468686	218.2808104	0	0		218.2808104			
San Bernardino (MD)	2024	UBUS	Aggregate	Aggregate	Natural Gas	78.27431777	3463960.418	771.2572341	771257.2341		3463960.418			

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