***KPC EHS Consultants, LLC***

# Mojave 68 Project

## GREENHOUSE GAS IMPACT ANALYSIS

## CITY OF VICTORVILLE

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## ACRONYMS & ABBREVIATIONS

| | |
|---|---|
| $^{o}F$ | degrees Fahrenheit |
| $\mu g/m^3$ | micrograms per cubic meter |
| AAQS | Ambient air quality standards |
| ADT | Average Daily Trips |
| AQMD | Air Quality Management District |
| AQMP | Air Quality Management Plan |
| ARB | California Air Resources Board |
| BACM | Best Available Control Measures |
| Basin | Mojave Desert Air Basin |
| BAU | Business-as-usual |
| BMPs | Best Management Practices |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| Caltrans | California Department of Transportation |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| $CH_4$ | Methane |
| CO | Carbon Monoxide |
| $CO_2$ | Carbon Dioxide |
| $CO_2e$ | Carbon Dioxide equivalents |
| $CO_2e/yr$ | Carbon Dioxide equivalents per year |
| County | County of San Bernardino |
| DPM | Diesel Particulate Matter |
| EPA | Environmental Protection Agency |
| GHG | Greenhouse Gas |
| MDAQMD | Mojave Desert Air Quality Management District |
| MT $CO_2e/yr.$ | Metric tons of carbon dioxide equivalents per year |
| NAAQS | National Ambient Air Quality Standards |
| $NO_2$ | Nitrogen Dioxide |
| NOx | Oxides of Nitrogen |

| | |
|---|---|
| $O_3$ | Ozone |
| Pb | Lead |
| $PM_{10}$ | Particulate Matter 10 microns in diameter |
| $PM_{2.5}$ | Particulate Matter 2.5 microns in diameter |
| PPM | Parts Per Million |
| ROG | Reactive Organic Gases |
| SIPs | State Implementation Plans |
| $SO_2$ | Sulfur Dioxide |
| SRA | Source Receptor Area |
| TAC | Toxic Air Contaminant |
| TIA | Traffic Impact Analysis |
| TRU | Transport Refrigeration Unit |
| VMT | Vehicle Miles Traveled |
| VOC | Volatile Organic Compound |

# 1 INTRODUCTION

This report presents the results of the Greenhouse Gas (GHG) Impact Analysis prepared by KPC EHS Consultants, LLC., for the proposed Mojave 68 Warehouse Project ("Project").

The purpose of this Analysis is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the Mojave Desert Air Quality Management District (MDAQMD).

## 1.1 PROJECT LOCATION

The proposed Mojave 68 Warehouse Project is located on undeveloped land bordered by Mojave Drive on the south, Cactus Road on the north, Onyx Road on the east, and Mesa Linda Drive on the west in the City of Victorville, as shown on Exhibit 1-1. The Project site is bounded by land to the north, east, and west; with existing residential homes located south of the Project site in the City of Victorville. The County of San Bernardino Assessor's Parcel Numbers are 3128-621-02 thru 06.

## 1.2 PROJECT DESCRIPTION

The Project proposes development of approximately 1,097,300 square feet building with 845,840 square feet of unrefrigerated warehouse, 211,480 square feet refrigerated warehouse, and 40,000 square feet of office space uses, in addition to associated facilities, infrastructure, and improvements, such as fencing, gates, parking, landscaping, lighting, and walkways on an approximately 66.4-acre site, as shown on Exhibit 1-2.

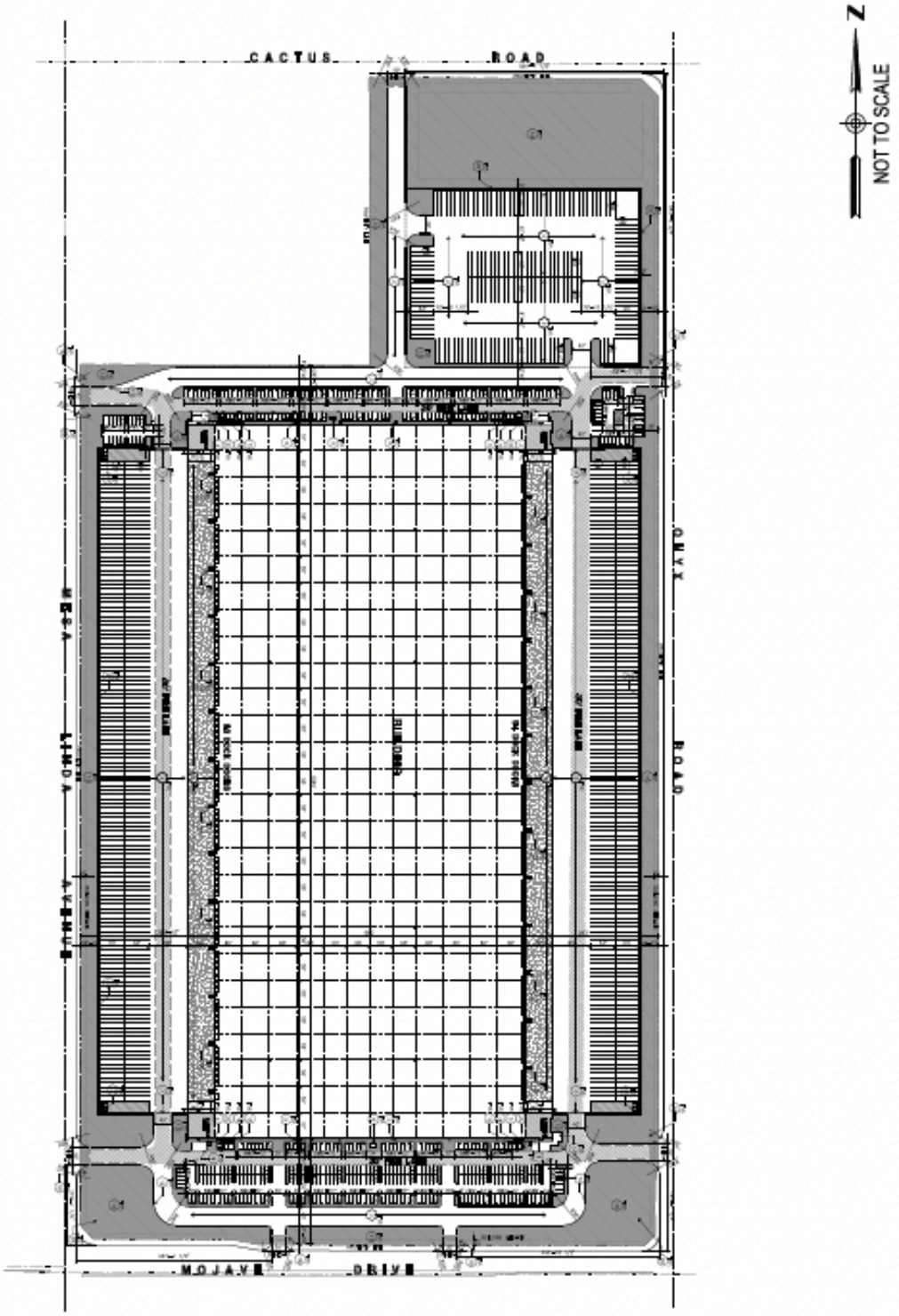
A total of 187 truck dock doors are proposed; 94 along the eastern side of the building facing Onyx Road, and 93 truck dock doors are proposed along the western side of the building facing Mesa Linda Avenue. A total of 727 truck trailer parking spaces (10' x 53') are proposed on the east side of the building adjacent to Onyx Road and the west side of the building adjacent to Mesa Linda Avenue.

A total of 511 parking spaces for passenger vehicles are proposed in a parking lot on the south side of the building adjacent to Mojave Drive and parking lots on the north side of the building adjacent to Cactus Road.

For the purposes of this analysis, it has been assumed that the Project will be developed with an anticipated Opening Year as the 4$^{th}$ quarter of 2024.

## EXHIBIT 1-1: LOCATION MAP

## EXHIBIT 1-2: SITE PLAN



# 2 ENVIRONMENTAL SETTING

This section provides an overview of the existing air quality conditions in the Project area and Mojave Desert Air Basin region.

## 2.1 MOJAVE DESERT AIR BASIN

The Project site is located in the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the MDAQMD. The District has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County. This region includes the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Hesperia, Needles, Twentynine Palms, Victorville, and Yucca Valley. This region also includes the National Training Center at Fort Irwin, the Marine Corps Air Ground Combat Center, the Marine Corps Logistics Base, the eastern portion of Edwards Air Force Base, and a portion of the China Lake Naval Air Weapons Station.

The air quality assessment for the proposed Project includes estimating emissions associated with short- term construction and long-term operation of the proposed Project. The California Emissions Estimator Model (CalEEMod) v. 2020.4.0 is the modeling tool used in this analysis to assess the air quality impacts of the project. In addition, the MDAQMD created guidelines and requirements to conduct air quality analyses as contained in the MDAQMD's *California Environmental Quality Act and Federal Conformity Guidelines* (February 2020) and were adhered to in the assessment of air quality impacts for the proposed Project.

## 2.2 REGIONAL CLIMATE AND METEOROLOGY

Air quality in the Project area is not only determined by various emissions sources (mobile, area, construction, etc.) but is also affected by natural factors such as topography, meteorology, and climate including atmospheric conditions such as wind speed, wind direction, temperature, and rainfall.

The District covers the majority of the Mojave Desert Air Basin (MDAB). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 ft elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft).

The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 ft). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains.

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse prior to reaching the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.

The MDAB experiences changes with the seasons including in the winter freezing temperatures, strong winds, and precipitation in the form of snow primarily above 5,000 ft in elevation, and rain below 5,000 ft. Most precipitation occurs between November and April. During summer, brief, high-intensity thunderstorms may occur suddenly and can cause high winds and localized flash flooding.

## 2.3 GREENHOUSE GASES and CLIMATE CHANGE

Greenhouse gases, also known as GHGs, are gases in the earth atmosphere that trap heat and create the greenhouse effect. The gases act like the panels of a greenhouse, thus the reason for the name greenhouse gases. The greenhouse effect is a natural occurrence that prevents nighttime temperatures from dropping to levels too low to sustain life. The greenhouse effect helps to maintain earth's temperature at an average 57°F (14°C), without the greenhouse effect temperatures would drop to as low as -0.4°F (-18°C).

Human activity however, has created changes to earth's natural greenhouse effect due to the increased release of greenhouse gases. Since the Industrial Revolution, humans have been releasing large quantities of GHGs into the atmosphere. The impact of human activity on the greenhouse gas effect is referred to as Climate Change.

GHGs can be categorized into natural and man-made. Natural GHGs include gases such as Carbon Dioxide ($CO_2$), Methane ($CH_4$), Nitrous Oxide ($N_2O$), and Water Vapor. Man-made GHGs include fluorinated gases such as hydrofluorocarbons (HFC), perfluorocarbons (PFC), nitrogen trifluoride ($NF_3$) and sulfur hexafluoride ($SF_6$).

GHGs are considered global pollutants, whereas criteria air pollutants and toxic air contaminants (TACs) are air pollutants of regional and local concern. Criteria pollutants and TACs not only have localized air quality effects they have relatively short atmospheric lifetimes (typically one day or less), GHGs on the other hand have long atmospheric lifetimes (one to several thousand years). Due to the long lifetime GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more $CO_2$ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused $CO_2$ emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO2 emissions remains stored in the atmosphere.[1] Table 2-1: Greenhouse Gases describes the primary GHGs attributed to global climate change, including their physical properties.

[1] Intergovernmental Panel on Climate Change, *Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2013. http://www.climatechange2013.org/ images/report/WG1AR5_ALL_FINAL.pdf

**Table 2-1: Greenhouse Gases & Health Effects**

| Greenhouse Gas | Description | Health Effects |
|---|---|---|
| **Carbon Dioxide ($CO_2$)** | Carbon dioxide ($CO_2$) is the primary greenhouse gas emitted through human activities. In 2020, $CO_2$ accounted for about 79% of all U.S. greenhouse gas emissions from human activities. Carbon dioxide is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle– both by adding more $CO_2$ to the atmosphere and by influencing the ability of natural sinks, like forests and soils, to remove and store $CO_2$ from the atmosphere. While $CO_2$ emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution.[2]<br><br>Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and other biological materials, and also as a result of certain chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. | Outdoor levels of $CO_2$ typically range from 300 to 400 ppm but can be as high as 600 to 900 ppm in metropolitan areas. Ambient levels are not high enough to result in negative health effects.<br><br>$CO_2$ is considered to be minimally toxic by inhalation. The primary health effects caused by $CO_2$ are the result of its behavior as a simple asphyxiant. A simple asphyxiant is a gas which reduces or displaces the normal oxygen in breathing air.<br><br>Symptoms of mild $CO_2$ exposure may include headache and drowsiness. At higher levels, rapid breathing, confusion, increased cardiac output, elevated blood pressure and increased arrhythmias may occur.<br><br>Breathing oxygen depleted air caused by extreme $CO_2$ concentrations can lead to death by suffocation. |
| **Methane ($CH_4$)** | In 2020, methane ($CH_4$) accounted for about 11% of all U.S. greenhouse gas emissions from human activities. Human activities emitting methane include leaks from natural gas systems and the raising of livestock. Methane is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove $CH_4$ from the atmosphere. Methane's lifetime in the atmosphere is much shorter than carbon dioxide ($CO_2$), but $CH_4$ is more efficient at trapping radiation than $CO_2$. Pound for pound, the comparative impact of $CH_4$ is 25 times greater than $CO_2$ over a 100-year period.[1]<br><br>Globally, 50-65% of total $CH_4$ emissions come from human activities.[2,3] Methane is emitted from energy, industry, agriculture, land use, and waste management activities,<br><br>Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, land use, and by the decay of organic waste in municipal solid waste landfills. | Exposure to $CH_4$ at high levels can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate. |

| | | |
|---|---|---|
| **Nitrous Oxide ($N_2O$)** | In 2020, nitrous oxide ($N_2O$) accounted for about 7% of all U.S. greenhouse gas emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of $N_2O$ in the atmosphere. Nitrous oxide is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of 1 pound of $N_2O$ on warming the atmosphere is almost 300 times that of 1 pound of carbon dioxide.[1]<br><br>Globally, about 40% of total $N_2O$ emissions come from human activities.[2] Nitrous oxide is emitted from agriculture, land use, transportation, industry, and other activities.<br><br>Nitrous oxide is emitted during agricultural, land use, and industrial activities; combustion of fossil fuels and solid waste; as well as during treatment of wastewater. | $N_2O$ is not considered harmful at low concentrations. Exposure may cause light headedness, dizziness, and euphoria. Chronic exposure has been associated with brain damage. |
| **Water Vapor** | Water is constantly cycling through the atmosphere. Water evaporates from the Earth's surface and rises on warm updrafts into the atmosphere. It condenses into clouds, is blown by the wind, and then falls back to the Earth as rain or snow. This cycle is one important way that heat and energy are transferred from the surface of the Earth to the atmosphere, and transported from one place to another on our planet.<br><br>Water vapor is also the most important greenhouse gas in the atmosphere. Heat radiated from Earth's surface is absorbed by water vapor molecules in the lower atmosphere. The water vapor molecules, in turn, radiate heat in all directions. Some of the heat returns to the Earth's surface. Thus, water vapor is a second source of warmth (in addition to sunlight) at the Earth's surface. | There are no known direct health effects related to water vapor, however when some pollutants react with water vapor, the reaction forms a transport mechanism for these pollutants to enter the human body through water vapor. |
| **Fluorinated Gases**<br>hydrofluorocarbons (HFC),<br>perfluorocarbons (PFC),<br>nitrogen trifluoride ($NF_3$)<br>sulfur hexafluoride ($SF_6$). | Fluorinated gases, also called F-gases, have no significant natural sources and come almost entirely from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have | No health effects are known for exposures to HFCs and PFCs.<br><br>Chronic and repeated exposure to $NF_3$ has the potential to cause fluorosis and impact the kidneys and liver functions.<br><br>$SF_6$ displaces oxygen in the atmosphere and is a suffocation danger in high concentrations in confined spaces. |

| | | |
|---|---|---|
| | long atmospheric lifetimes—in some cases, lasting thousands of years. Like other long-lived greenhouse gases, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities. | |

## 2.4 Global Warming Potential

Greenhouse gases (GHGs) warm the Earth by absorbing energy and slowing the rate at which the energy escapes to space; they act like a blanket insulating the Earth. Different GHGs can have different effects on the Earth's warming. Two key ways in which these gases differ from each other are their ability to absorb energy (their "radiative efficiency"), and how long they stay in the atmosphere (also known as their "lifetime").

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. GHGs have varying global warming potential (GWP). A GWP is a "quantified measure of the globally averaged relative radiative forcing impacts of a particular greenhouse gas, defined as the accumulated radiative forcing within a specific time horizon caused by emitting one kilogram of the gas, relative to that of the reference gas" (EPA 2017). The reference gas for GWP is carbon dioxide ($CO_2$); $CO_2$ has a GWP of one. For example: methane has a GWP of 21, which means that it has a greater global warming effect than carbon dioxide on a molecule per molecule basis. One teragram of carbon dioxide equivalent (Tg $CO_2$ Eq.) is the emissions of the gas multiplied by the GWP. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. The lifetime and GWP of selected GHG are summarized in Table 2-2. As shown in the table, GWP for a 100-year time horizon from the Intergovernmental Panel on Climate Change (IPCC) second assessment report (SAR), fourth assessment report (AR4) and the fifth assessment report (AR5) ranges from one (carbon dioxide) to 23,500 (sulfur hexafluoride).

**Table 2-2 Global warming potential (GWP) values relative to $CO_2$**

| Gas Name | Formula | Lifetime (years) | SAR GWP | AR4 GWP | AR5 GWP |
|---|---|---|---|---|---|
| Carbon Dioxide | $CO_2$ | | 1 | 1 | 1 |
| Methane | $CH_4$ | 12 | 21 | 25 | 28 |
| Nitrous Oxide | $N_2O$ | 114 | 310 | 298 | 265 |
| Sulphur Hexafluoride | $SF_6$ | 3200 | 23,900 | 22,800 | 23,500 |
| Nitrogen Trifluoride | $NF_3$ | 740 | n/a | 17,200 | 16,100 |
| Hexafluoroethane (PFC-116) | $C_2F_6$ | 10,000 | 9,200 | 12,200 | 11,100 |
| Octafluoropropane (PFC-218) | $C_3F_8$ | 2,600 | 7,000 | 8,830 | 8,900 |
| Octafluorocyclobutane (PFC-318) | $C_4F_8$ | 3,200 | 8,700 | 10,300 | 9,540 |
| Tetrafluoromethane (PFC-14) | $CF_4$ | 50,000 | 6,500 | 7,390 | 6,630 |
| Hydrofluorocarbon 125 | HFC-125 | 29 | 2,800 | 3,500 | 12,400 |
| Hydrofluorocarbon 134a | HFC-134a | 14 | 1,300 | 1,430 | 1,300 |
| Hydrofluorocarbon 143a | HFC-143a | 52 | 3,800 | 4,470 | 4,800 |
| Hydrofluorocarbon 152a | HFC-152a | 1 | 140 | 124 | 138 |
| Hydrofluorocarbon 227ea | HFC-227ea | 34 | 2,900 | 3,220 | 3,350 |
| Hydrofluorocarbon 23 | HFC-23 | 270 | 11,700 | 14,800 | 12,400 |
| Hydrofluorocarbon 236fa | HFC-236fa | 240 | 6,300 | 9,810 | 8.060 |
| Hydrofluorocarbon 245fa | HFC-245fa | 8 | n/a | 1,030 | 858 |
| Hydrofluorocarbon 32 | HFC-32 | 5 | 650 | 675 | 677 |

*Source: 1) California Air Resources Board (CARB) GHG Global Warming Potentials: https://ww2.arb.ca.gov/ghg-gwps*
*2) Greenhouse Gas Protocol, Global Warming Potential Values: https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf*

## 2.5 REGULATORY BACKGROUND

### 2.5.1 FEDERAL REGULATIONS

Currently, there are no national standards for nationwide GHG reduction or regulations and legislation to address climate change and GHG emissions reduction at the project level. However, regulations and legislation has been passed at the federal level for improving energy efficiency fuel economy to reduce impacts on climate change and its effects.

#### U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency (EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs ($CO_2$, $CH_4$, $N_2O$, HFCs, PFCs, and SF6) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

#### Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of $CO_2$ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the U.S. EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for $CO_2$ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational

vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower $CO_2$ emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

In 2018, the President and the U.S. EPA stated their intent to halt various federal regulatory activities to reduce GHG emission, including the phase two program. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. On September 27, 2019, the U.S. EPA and the NHTSA published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the U.S. EPA and NHTSA finalized rulemaking for SAFE Part Two sets $CO_2$ emissions standards and corporate average fuel economy (CAFE) standards for passenger vehicles and light duty trucks, covering model years 2021-2026. The U.S. EPA is currently reconsidering the SAFE rule.

### 2.5.2 CALIFORNIA REGULATIONS

The State of California legislature has enacted a series of bills that constitute the most aggressive programs and measures to reduce GHGs. Legislation such as the landmark AB 32 in 2006 was specifically enacted to address GHG emissions. Other legislation such as California Code of Regulations (CCR) Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes a summary of the major provisions of the legislation.

#### Assembly Bill 32 (California Global Warming Solutions Act of 2006)

AB 32 instructs CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

#### CARB Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual")[2]. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and

the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program[3]. Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.
- The California Sustainable Freight Action Plan was developed in 2016 and provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing pollution.
- CARB's Mobile Source Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The mobile Source Strategy includes increasing zero emission vehicle (ZEV) buses and trucks.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of $CO_2e$ (MMTCO2e) to 545 MMTCO2e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan

summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

CARB adopted the Final 2017 Scoping Plan Update identifying the State's post 2020 reduction strategy and reflects the 2030 reduction target of 40% below 1990 levels as set by EO B-30-15 and codified in SB32.

### 2022 Scoping Plan For Achieving Carbon Neutrality

On December 15, 2022, CARB approved the final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) which lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan are to achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Scoping Plan contains the GHG reductions, technology, and clean energy mandated by statutes. The 2022 Scoping Plan was developed to achieve carbon neutrality by 2045 through a substantial reduction in fossil fuel dependence, while at the same time increasing deployment of efficient non-combustion technologies and distribution of clean energy. The plan would also reduce emissions of short-lived climate pollutants (SLCPs) and would include mechanical carbon dioxide ($CO_2$) capture and sequestration actions, as well as emissions and sequestration from natural and working lands and nature-based strategies. Table 2.5-1 provides a summary of the actions of the scoping plan by sector.

**Table 2.5-1 Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors**

| SECTOR | ACTION |
|---|---|
| GHG emissions reductions relative to the SB 32 target | At least 40% below 1990 levels by 2030 |
| Smart Growth / Vehicle Miles Travelled (VMT) | VMT per capita reduced 25% below 2019 levels by 2030 and 30% below 2019 levels by 2045 |
| Light-duty vehicle (LDV) Zero Emission Vehicles (ZEVs) | 100% of LDV sales are ZEV by 2035 |
| Truck ZEVs | AB 74 Institute of Transportation Studies report: 100% of medium duty/heavy duty vehicle sales are ZEV by 2040 |
| Aviation | 20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045.<br>Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries |
| Ocean-going Vessels (OGV) | 2020 OGV At-Berth regulation fully implemented with most OGVs utilizing shore power by 2027<br>25% of OGVs utilize hydrogen fuel cell electric technology by 2045 |

| | |
|---|---|
| Port Operations | Executive Order N-79-20: 100% of cargo handling equipment is zero-emission by 2037<br><br>100% of drayage trucks are zero emission by 2035 |
| Freight and Passenger Rail | 100% of passenger and other locomotive sales are ZEV by 2030<br><br>100% of line haul locomotive sales are ZEV by 2035<br><br>Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity |
| Oil & Gas Extraction | Operations to be reduced in-line with petroleum demand |
| Petroleum Refining | CCS is delayed until 2028 to allow for permitting and SB 905 related pipeline safety regulations to be in effect. Amount of CCS continues to be limited to large units at a refinery site.<br><br>Production reduced in line with petroleum demand |
| Electricity Generation, Transmission and Distribution | 100% zero carbon for retail sales by 2045<br><br>Procurement of zero carbon electricity between 2030 and 2045 with an offshore wind target of 20 GW in 2045<br><br>Retail sales load coverage CCS on some electricity generation by 2045<br><br>Transmission and distribution infrastructure development to complement electrification and grid resiliency efforts |
| Carbon Dioxide Removal/Carbon Capture and Sequestration | 2030 target for carbon dioxide removal and carbon capture of 20 MMT $CO_2e$ and 2045 target of 100 MMT $CO_2e$; per AB 1279, ensure 85% reduction in anthropogenic emissions from 1990 levels by 2045 |
| New Residential and Commercial Buildings | All electric appliances beginning 2026 (residential) and 2029 (commercial) |
| Existing Commercial Buildings | 80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2045<br><br>Appliances are replaced at the end of life |
| Construction Equipment | 25% energy demand electrified by 2030 and 75% by 2045 |
| Other Industrial Manufacturing | 0% energy demand electrified by 2030 and 50% by 2045 |
| Combined Heat and Power | Facilities retire by 2040 |
| Agriculture Energy Use | 25% energy demand electrified by 2030 and 75% by 2045 |
| Low Carbon Fuels for Transportation | Biomass supply used to produce conventional and advanced biofuels, as well as hydrogen |
| Low Carbon Fuels for Buildings and Industry | In 2030s, RNG blended in pipeline<br><br>Renewable hydrogen blended in natural gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040<br><br>In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters |
| Non-combustion Methane Emissions | Increase landfill and dairy digester methane capture<br><br>Some alternative manure management deployed for smaller dairies<br><br>Moderate adoption of enteric strategies by 2030 Divert 75% of organic waste from landfills by 2025 |

| | |
|---|---|
| | Oil and gas fugitive methane emissions reduced 50% by 2030 and further reductions as infrastructure components retire in line with reduced natural gas demand |
| High Global Warming Potential (GWP) Emissions | Low GWP refrigerants introduced as building electrification increases, mitigating hydrofluorocarbon (HFC) emissions |

The 2022 Scoping Plan also identifies local governments as critical partners with efforts to reduce GHGs within their jurisdiction which are necessary for achieving the State's long-term climate goals. The 2022 Scoping Plan states that local governments have responsibility and authority over the built environment, transportation networks, and provision of local services. For example, local governments have primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population and employment growth and the changing needs of their jurisdictions. They make decisions on how and when to deploy transportation infrastructure and can promote residential and commercial development that supports transit, bicycling, and walking. Local governments have the authority to adopt building ordinances that exceed statewide building code requirements and facilitate the implementation of zero-emission vehicle (ZEV) infrastructure.

The 2022 Scoping Plan discusses the implications for sustainable development on equity and environmental justice as part of a strategy to combat climate change and provides the following recommendations to local governments for:

- Developing local CAPs and strategies consistent with the State's GHG emission reduction goals;
- Incorporating State-level GHG priorities into their processes for approving land use plans and individual projects;
- Implementing CEQA mitigation, as needed, to reduce GHG emissions associated with new land use development projects; and
- Leveraging opportunities for regional collaboration.

### Senate Bill (SB) 32 and AB 197.

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of Executive Order (EO) B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the CARB Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

### AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for

the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer $CO_2e$ emissions and 75 percent fewer smog- forming emissions.

### California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended, or repealed by the state agencies pursuant to the Administrative Procedure Act (APA). The CCR includes regulations that pertain to GHG emissions specifically Title 20 Appliance Efficiency, Title 24 Building Energy Efficiency Standards and California Green Building Standards Code.

#### Title 20 Appliance Efficiency Regulations

The California Energy Commission (CEC) first developed the Appliance Energy Efficiency Standards in 1977. The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances and set minimum efficiency levels for energy and water consumption in products, such as consumer electronics, household appliances, and plumbing equipment.

#### Title 24 Building Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6), 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 2016 Building Energy Efficiency Standards approved on January 19, 2016 went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and took effect on January 1, 2020. Under the 2019 standards, homes will use about 53 percent less energy and nonresidential buildings will use about 30 percent less energy than buildings under the 2016 standards.

#### Title 24 California Green Building Standards Code

The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017. Updates to the 2016 CALGreen Code took effect on January 1, 2020 (2019 CALGreen). The 2019 CALGreen standards continue to improve upon the existing standards for new construction of, and additions and alterations to, residential and nonresidential buildings.

### Tractor Trailer Greenhouse Gas (TTGHG) Regulation

The California Air Resources Board (CARB) approved the Tractor-Trailer Greenhouse Gas (TTGHG) Regulation in 2008 to reduce greenhouse gas emissions by improving the aerodynamic performance and reducing the rolling resistance of tractor-trailers. The TTGHG Regulation took effect in 2010. The reduction in greenhouse gas emissions will be achieved by requiring the use of aerodynamic technologies on tractors and trailers, along with requiring the use of low rolling resistance tires. In addition to reducing greenhouse gas emissions, this regulation will reduce fuel consumption, thereby saving fleets money, and reduce our nation's dependence on fossil fuel.

### California Attorney General's Bureau of Environmental Justice, (Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act)

The document builds upon the California Attorney General's Bureau of Environmental Justice (Bureau) reviews of proposed warehouse project for compliance with CEQA. The document includes input from comment letters, and knowledge gained from the Bureau's review of warehouse projects across the State. The document provides guidance to lead agencies providing information on feasible best practices and mitigation measures, adapted from actual warehouse projects in the State.

### GHG Standards for Medium- and Heavy-Duty Engines and Vehicles

CARB has adopted greenhouse gas (GHG) standards that largely align with the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) for new medium- and heavy-duty engines, vehicles, and trailers sold in California. The regulations will reduce GHG emissions from on-road medium- and heavy-duty vehicles.

### Major Climate Legislation and Executive orders Since 2017 Scoping Plan

**Table 2.5-2: Major Climate Legislation & Executive Orders Since 2017 Scoping Plan**

| | |
|---|---|
| **Assembly Bill 1279 (AB 1279) (Muratsuchi, Chapter 337, Statutes of 2022)**<br>*The California Climate Crisis Act* | AB 1279 establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO2 removal solutions and carbon capture, utilization, and storage (CCUS) technologies.<br>This bill is reflected directly in the 2022 Scoping Plan. |
| **Senate Bill 905 (SB 905) (Caballero, Chapter 359, Statutes of 2022)**<br>*Carbon Capture, Removal, Utilization, and Storage Program* | SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate CCUS and carbon dioxide removal (CDR) projects and technology.<br>The bill requires CARB, on or before January 1, 2025, to adopt regulations creating a unified state permitting application for approval of CCUS and CDR projects. The bill also requires the Secretary of the Natural Resources Agency to publish a framework for governing agreements for two or more tracts of land overlying the same geologic |

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| | storage reservoir for the purposes of a carbon sequestration project.<br><br>The 2022 Scoping Plan modeling reflects both CCUS and CDR contributions to achieve carbon neutrality. |
| **Senate Bill 1020 (SB 1020) (Laird, Chapter 361, Statutes of 2022)**<br><br>*Clean Energy, Jobs, and Affordability Act of 2022* | SB 1020 adds interim renewable energy and zero carbon energy retail sales of electricity targets to California end-use customers set at 90 percent in 2035 and 95 percent in 2040.<br>It accelerates the timeline required to have 100 percent renewable energy and zero carbon energy procured to serve state agencies from the original target year of 2045 to 2035. This bill requires each state agency to individually achieve the 100 percent goal by 2035 with specified requirements. This bill requires the CPUC, California Energy Commission (CEC), and CARB, on or before December 1, 2023, and annually thereafter, to issue a joint reliability progress report that reviews system and local reliability.<br>The bill also modifies the requirement for CARB to hold a portion of its Scoping Plan workshops in regions of the state with the most significant exposure to air pollutants by further specifying that this includes communities with minority populations or low-income communities in areas designated as being in extreme federal non-attainment.<br><br>The 2022 Scoping Plan describes the implications of this legislation on emissions. |
| **Senate Bill 1075 (SB 1075) (Skinner, Chapter 363, Statutes of 2022)**<br><br>*Hydrogen: Green Hydrogen: Emissions of Greenhouse Gases* | SB 1075 requires CARB, by June 1, 2024, to prepare an evaluation that includes: policy recommendations regarding the use of hydrogen, and specifically the use of green hydrogen, in California; a description of strategies supporting hydrogen infrastructure, including identifying policies that promote the reduction of GHGs and short-lived climate pollutants; a description of other forms of hydrogen to achieve emission reductions; an analysis of curtailed electricity; an estimate of GHG and emission reductions that could be achieved through deployment of green hydrogen through a variety of scenarios; an analysis of the potential for opportunities to integrate hydrogen production and applications with drinking water supply treatment needs; policy recommendations for regulatory and permitting processes associated with transmitting and distributing hydrogen from production sites to end uses; an analysis of the life-cycle GHG emissions from various forms of hydrogen production; and an analysis of air pollution and other environmental impacts from hydrogen distribution and end uses.<br><br>This bill would inform the production of hydrogen at the scale called for in the 2022 Scoping Plan. |
| **Senate Bill 1206 (SB 1206) (Skinner, Chapter 884, Statutes of 2022)**<br><br>*Hydrofluorocarbon gases: sale or distribution* | SB 1206 mandates a stepped sales prohibition on newly produced high- global warming potential (GWP) HFCs to transition California's economy toward recycled and reclaimed HFCs for servicing existing HFC-based equipment. Additionally, SB 1206 also requires CARB to develop regulations to increase the adoption of very low-, |

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| | i.e., GWP < 10, and no-GWP technologies in sectors that currently rely on higher-GWP HFCs. |
| **Senate Bill 596 (SB 596) (Becker, Chapter 246, Statutes of 2021)**<br><br>*Greenhouse Gases: Cement Sector: Net-zero Emissions Strategy* | SB 596 requires CARB, by July 1, 2023, to develop a comprehensive strategy for the state's cement sector to achieve net-zero-emissions of GHGs associated with cement used within the state as soon as possible, but no later than December 31, 2045. The bill establishes an interim target of 40 percent below the 2019 average GHG intensity of cement by December 31, 2035. Under SB 596, CARB must:<br>• Define a metric for GHG intensity and establish a baseline from which to measure GHG intensity reductions.<br>• Evaluate the feasibility of the 2035 interim target (40 percent reduction in GHG intensity) by July 1, 2028.<br>• Coordinate and consult with other state agencies.<br>• Prioritize actions that leverage state and federal incentives.<br>• Evaluate measures to support market demand and financial incentives to encourage the production and use of cement with low GHG intensity. |
| **Executive Order N-79-20** | Governor Newsom signed Executive Order N-79-20 in September 2020 to establish targets for the transportation sector to support the state in its goal to achieve carbon neutrality by 2045. The targets established in this Executive Order are:<br>• 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035.<br>• 100 percent of medium- and heavy-duty vehicles will be zero-emission by 2045 for all operations where feasible, and by 2035 for drayage trucks.<br>• 100 percent of off-road vehicles and equipment will be zero-emission by 2035 where feasible.<br><br>The Executive Order also tasked CARB to develop and propose regulations that require increasing volumes of zero-electric passenger vehicles, medium- and heavy-duty vehicles, drayage trucks, and off-road vehicles toward their corresponding targets of 100 percent zero-emission by 2035 or 2045, as listed above. |
| **Executive Order B-55-18** | Governor Brown signed Executive Order B-55-18 in September 2018 to establish a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. Policies and programs undertaken to achieve this goal shall:<br>• Seek to improve air quality and support the health and economic resiliency of urban and rural communities, particularly low-income and disadvantaged communities.<br>• Be implemented in a manner that supports climate adaptation and biodiversity, including protection of the state's water supply, water quality, and native plants and animals.<br>This Executive Order also calls for CARB to:<br>• Develop a framework for implementation and accounting that tracks progress toward this goal. |

| | |
|---|---|
| | • Ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.<br><br>The 2022 Scoping Plan is designed to achieve carbon neutrality no later than 2045 and the modeling includes technology and fuel transitions to achieve that outcome. |
| **Senate Bill 100 (SB 100) (De León, Chapter 312, Statutes of 2018)**<br><br>*California Renewables Portfolio Standard Program: emissions of greenhouse gases* | SB 100 mandates that the CPUC, CEC, and CARB plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. This bill also updates the state's Renewables Portfolio Standard (RPS) to include the following interim targets:<br>• 44% of retail sales procured from eligible renewable sources by December 31, 2024.<br>• 52% of retail sales procured from eligible renewable sources by December 31, 2027.<br>• 60% of retail sales procured from eligible renewable sources by December 31, 2030.<br><br>Under SB 100, the CPUC, CEC, and CARB shall use programs under existing laws to achieve 100 percent clean electricity. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021.<br><br>The 2022 Scoping Plan reflects the SB 100 Core Scenario resource mix with a few minor updates. |
| **Assembly Bill 2061 (AB 2061) (Frazier, Chapter 580, Statutes of 2018)**<br><br>*Near-zero-emission and Zero-emission Vehicles* | Existing state and federal law sets specified limits on the total gross weight imposed on the highway by a vehicle with any group of two or more consecutive axles. Under existing federal law, the maximum gross vehicle weight of that vehicle may not exceed 82,000 pounds. AB 2061 authorizes a near-zero-emission vehicle or a zero-emission vehicle to exceed the weight limits on the power unit by up to 2,000 pounds. |

## 2.6 Applicable Policies and Programs

### City of Victorville

### Climate Action Plan (CAP)

The City of Victorville Climate Action Plan (CAP) was adopted in 2015 to present the GHG inventories, identify the effectiveness of California initiatives to reduce GHG emissions, and identify local measures that were selected by the City to reduce GHG emissions under the City's jurisdictional control to

achieve the City's identified reduction targets per AB32 2020 GHG target. The City's CAP is currently being updated to provide for post 2020 GHG emissions reduction targets.

As part of the City's CAP projects are required to complete and implement the Greenhouse Gas Emissions Screening Table Review Measures form (GHG Screening Table) providing for a minimum 100 points.

### General Plan Policies and Implementation Measures

Local air quality within Victorville varies from place to place and depends on both regional wind patterns and proximity to local pollution sources. The City of Victorville General Plan contains a variety of policies and implementation measures that address air quality improvement and GHG reduction. The following policies and implementation measures would apply to the project.

**Policy 6.1.1**: Encourage planning and development activities, that reduce the number and length of single occupant automobile trips.

- **Implementation Measure 6.1.1.1:** Require large projects (exceeding 150,000 square feet of development) to incorporate Transportation Demand Management (TDM) techniques, such as promoting carpooling and transit, as a condition of project approval.

**Policy 7.2.1:** Support energy conservation by requiring sustainable building design and development for new residential, commercial, and industrial projects.

- **Implementation Measure 7.2.1.2**: Minimize energy use of new residential, commercial, and industrial projects by requiring high efficiency heating, lighting, and other appliances, such as cooking equipment, refrigerators, furnaces, overhead and area lighting, and low NOx water heaters.
- **Implementation Measure 7.2.1.3**: Require drought tolerant landscaping in all new private developments.

# 3 POTENTIAL PROJECT GREENHOUSE GAS IMPACTS

## 3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate a GHG regulation, plan, standard, or policy. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of GHG. The significance of these potential impacts is described in the following section.

## 3.2 THRESHOLDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines, California Code of Regulations §15000, et seq. Based on these thresholds, a project would result in a significant impact related to air quality if it would:

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

The MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 3.2-1. The MDAQMD's CEQA And Federal Conformity Guidelines (February 2020) indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

Currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. The MDAQMD has identified thresholds of 100,000 tons per year (90,718 $MTCO_2e$/year) or 548,000 pounds per day of $CO_2e$ emissions for individual projects. The MDAQMD thresholds were used in this analysis.

**TABLE 3.2-1: SIGNIFICANT EMISSIONS THRESHOLDS**

| Criteria Pollutant | Annual Threshold (short tons) | Daily Threshold (pounds) |
|---|---|---|
| Greenhouse Gases ($CO_2e$) | 100,000 | 548,000 |
| Carbon Monoxide (CO) | 100 | 548 |
| Oxides of Nitrogen ($NO_X$) | 25 | 137 |
| Volatile Organic Compounds (VOC) | 25 | 137 |
| Oxides of Sulfur ($SO_X$) | 25 | 137 |
| Particulate Matter ($PM_{10}$) | 15 | 82 |
| Particulate Matter ($PM_{2.5}$) | 12 | 65 |
| Hydrogen Sulfide ($H_2S$) | 10 | 54 |
| Lead (Pb) | 0.6 | 3 |

## 3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL

Land uses such as the proposed Project affect air quality through construction-source and operational- source emissions.

The SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) version 2020.4.0. The purpose of this model is to calculate construction and operational-source criteria pollutant ($NO_X$, VOC, $PM_{10}$, $PM_{2.5}$, $SO_X$, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Project to determine construction, operational air quality, and GHG emissions. Datasheet outputs from the model runs are provided in Appendix A.

## 3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of CO, VOCs, $NO_X$, $SO_X$, $PM_{10}$, $PM_{2.5}$, and Greenhouse Gases. The Construction emissions for VOC, NOx, CO, Sox, PM10 and PM2.5 are assessed as part of the Project's Air Quality Impact Analysis. Construction related GHG emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating
- Materials Deliveries and Construction Workers Commuting

Construction is expected to commence in September 2023 and will last through September 2024, approximately 13 months. Construction duration by phase is shown on Table 3.4-1. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[2] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction. The duration of construction activity was based on an estimated schedule for the various construction phases from the Project applicant and a scheduled 2024 opening year. The associated construction equipment was based on CalEEMod 2020.4.0 defaults. Please refer to specific detailed modeling inputs/outputs contained in Appendix A of this analysis. A detailed summary of construction equipment assumptions by phase is provided at Table 3.4-2.

[2] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3"OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

**TABLE 3.4-1: CONSTRUCTION DURATION**

| Phase Name | Start Date | End Date | Days |
|---|---|---|---|
| Site Preparation | 09/01/2023 | 10/12/2023 | 30 |
| Grading | 10/13/2023 | 12/23/2023 | 51 |
| Building Construction | 12/23/2023 | 09/30/2024 | 201 |
| Paving | 06/01/2024 | 09/30/2024 | 86 |
| Architectural Coatings | 06/01/2024 | 09/30/2024 | 86 |

**TABLE 3.4-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS**

| Activity | Equipment | Number | Hours Per Day |
|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8 |
| | Tractors/Loaders/Backhoes | 4 | 8 |
| Graders | Excavators | 2 | 8 |
| | Graders | 1 | 8 |
| | Rubber Tired Dozers | 1 | 8 |
| | Scrapers | 2 | 8 |
| | Tractors/Loaders/Backhoes | 2 | 8 |
| Building Construction | Cranes | 1 | 7 |
| | Forklifts | 3 | 8 |
| | Generator Sets | 1 | 8 |
| | Tractors/Loaders/Backhoes | 3 | 7 |
| | Welders | 1 | 8 |
| Paving | Pavers | 2 | 8 |
| | Paving Equipment | 2 | 8 |
| | Rollers | 2 | 8 |
| Architectural Coating | Air Compressors | 1 | 6 |

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information CalEEMod model defaults.

### 3.4.1 CONSTRUCTION EMISSIONS SUMMARY

#### *Impacts without Mitigation*

The estimated maximum daily construction emissions without mitigation are summarized on Table 3.4-3. Detailed construction model outputs are presented in Appendix A. For Construction related Project GHG emissions the GHGs are quantified using CalEEMod and amortized over the life of the project. The MDAQMD recommendation is to amortize using a 30-year project life.

Under the anticipated schedule and equipment scenarios, GHG emissions resulting from the Project construction would not exceed thresholds established by the MDAQMD for emissions of any criteria pollutant. As such, the Project will have a less than significant impact during on-going construction activity and no mitigation is required.

**TABLE 3.4-3: CONSTRUCTION GHG EMISSIONS**

| Source | | GHG Emissions MT/yr. | | |
|---|---|---|---|---|
| | N2O | CO2 | CH4 | CO2e |
| Construction 2023 | 0.005 | 240.33 | 0.0632 | 243.33 |
| Construction 2024 | 0.085 | 1,321.04 | 0.0985 | 1,348.82 |
| **Total Construction** | 0.090 | 1,561.37 | 1.617 | 1,592.15 |
| 30-year Amortized Construction GHG | *Tons/Year / Metric Tons / Year* | | | 53.07/58.50 |
| **MDAQMD Threshold** | *100,000 Tons/Year / 90,718.5 MT/Year* [3] | | | **100,000/90,718.5** |
| **Exceed Threshold?** | | | | **NO** |

## 3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOC, NOx, CO, SOx, $PM_{10}$, $PM_{2.5}$, and Greenhouse Gases. The Operational emissions for VOC, NOx, CO, Sox, PM10 and PM2.5 are assessed as part of the Project's Air Quality Impact Analysis. Operational GHG emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-site equipment
- Transport Refrigeration Unit (TRU) Emissions

### 3.5.1 AREA SOURCE EMISSIONS

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on assumptions provided in the CalEEMod model. In the case of the commercial uses proposed by the Project, no substantive on-site use of consumer products is anticipated.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

[3] CalEEMod GHG Emissions for GHG CO2e is calculated in Metric Tons (MT) per year.

### 3.5.2 Energy Source Emissions

#### Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. The emissions associated with natural gas and electricity use were calculated using the CalEEMod model.

### 3.5.3 Mobile Source Emissions

#### Vehicles

Project-related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics for operational truck and passenger vehicle totals are available from the Traffic Study Scope and Vehicle Miles Traveled (VMT) Screening Memorandum (Appendix B).

### 3.5.4 Transport Refrigeration Units (TRU)

Transport Refrigeration Units (TRU) are refrigeration systems powered by diesel internal combustion engines (ICEs) designed to refrigerate or heat perishable products that are transported in various containers, including vans, trucks, semi-truck trailers, and shipping containers.

To account for the operations of TRUs on-site the number of refrigerated trucks/trailers was estimated using the Traffic Study and Vehicle Miles Traveled (VMT) Screening Memo from David Evans and Associates, dated September 26, 2022. According to the Memo's Trip Generation Table the average daily trips for the Cold Storage portion of the building would be approximately 97 trucks per day. For determining emissions from the TRUs they were estimated to be 50 horsepower (HP) units operating on diesel fuel for a period of 4 hours on-site. The 4-hour operational time is a worse-case scenario as typical TRUs range from 9 to 36 horsepower[4], and emissions can be substantially reduced through the implementation of MM-AQ-6, which requires installation of electrical plugs for electric transport units at each dock door servicing the Cold Storage portion of the Project.

To calculate the emissions for the TRUs the CARB EMFAC OFFROAD2021 (v1.0.3) was used to obtain emissions factors and multiplied by the daily number of trucks and the estimated hours of on-site operation. The output table for emissions factors is included as Appendix C.

### 3.5.5 On-site Equipment emissions

An Industrial warehouse project commonly requires cargo handling equipment (CHE) to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. Yard trucks have a horsepower (hp) range of approximately 175 hp to 200 hp. Based on surveys conducted by the SCAQMD; high-cube warehouse projects typically have 3.6-yard trucks per million square feet of building space. For the Project, on-site modeled operational equipment includes four (4) 200 hp yard tractors operating at 8 hours a day for 365 days of the year. In addition to the use of yard trucks operating at the Project site, forklifts and pallet jacks are also common pieces of equipment used in warehouse operations. As part of the Project's design, all on-site outdoor CHE (including yard

[4] California Air Resources Board (CARB) Transport Refrigeration Unit retrieved November 23, ,2022 from: https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/about

trucks, hostlers, yard goats), will be powered by compressed natural gas, propane, or electric engines while all forklift and pallet jacks will be electric powered. Using the CalEEMod program the emissions from UTRs were calculated using the Tractor/Loader/Backhoe equipment, operating at 200 HP on CNG. Using the SCAQMD's study on high-cube warehouses forklifts/pallet jacks are based on 0.12 per 1,000 square feet of building area, therefore the Project includes 120 forklifts/pallet jacks operating at 8 hours a day for 365 days of the year interior to the building. For purposes of the GHG analysis forklifts and pallet jacks are assumed to be electric consistent with industry standards.

### 3.5.6 Operational Emissions Summary

Operational-source emissions with amortized construction GHG Annual emissions are summarized in Table 3.5-1. Detailed operational model outputs are presented in the CalEEMod datasheets in Appendix A.

**TABLE 3.5-1: SUMMARY OF PEAK OPERATIONAL ANNUAL EMISSIONS**

| Source | | GHG Emissions MT/yr. | | |
|---|---|---|---|---|
| | N2O | CO2 | CH4 | CO2e |
| Area | 0.00 | 0.029 | 0.00008 | 0.0308 |
| Energy | 0.03 | 2,625.70 | 0.177 | 2,639.75 |
| Mobile Sources | 0.21 | 2,351.50 | 0.048 | 2,414.6 |
| On-Site Equipment | 0.00 | 199.84 | 0.065 | 201.46 |
| TRU | -- | -- | -- | 207.20 |
| Solid Waste | 0.00 | 209.30 | 12.37 | 518.52 |
| Water/Wastewater | 0.20 | 669.43 | 8.25 | 935.13 |
| 30-year Amortized Construction GHG | | | | 53.07/58.50 |
| **TOTAL** | | *Tons/Year / Metric Tons / Year* | | *7,689 / 6,975* |
| **MDAQMD Threshold** | | *100,000 Tons/Year / 90,718 MT/Year* [5] | | **100,000 / 90,718** |
| **Exceed Threshold?** | | | | **NO** |

## 3.6 GREENHOUSE GAS EMISSIONS ANALYSIS

As discussed in Section 3.2 the Project's potential GHG impacts are based on two thresholds 1) Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and 2) Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

### 3.6.1 GHG Threshold #1

***Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?***

The City uses the MDAQMD significance thresholds to determine a project's impacts on GHG emissions. The thresholds established by the MDAQMD for GHG emissions included an annual threshold of 100,000 short tons $CO_2e$ per year (90,718 $MTCO_2e$/year) and a daily threshold of 548,000 pounds per day.

[5] CalEEMod GHG Emissions for GHG CO2e is calculated in Metric Tons (MT) per year.

According to the MDAQMD's CEQA Guidelines if a project is deemed to not exceed these thresholds, then it is deemed to not be significant, if it is consistent with the existing land use plan. The Project's GHG Emissions are included in Tables 3.4-3: Construction GHG Emissions and 3.5-1 Summary of Peak Operational Annual GHG Emissions and summarized below in Table 3.6-1 Summary of Project's Peak Daily and Annual GHG Emissions.

The Project's annual GHG Emissions for operations would result in 7,689 short tons $CO_2e$/year (6,975 $MTCO_2e$/year) and as such would not exceed the annual threshold of 100,000 short tons $CO_2e$ per year (90,718 $MTCO_2e$/year). The Project's annual GHG Emissions from construction would result in 1,487 short tons $CO_2e$/year (1,349 $MTCO_2e$/year) and as such would not exceed the annual threshold of 100,000 short tons $CO_2e$ per year (90,718 $MTCO_2e$/year).

Additionally, the Project's daily emissions for construction and operations would be below the MDAQMD's threshold of 548,000 pounds $CO_2e$ per day, with construction estimated at 21,278 pounds $CO_2e$ per day in the first construction year and 17,735 pounds $CO_2e$ in the second year of construction. Operational daily GHG emissions are estimated to be 20,270 pounds $CO_2e$ per day.

Therefore, the Project does not exceed the MDAQMD's daily or annual GHG significance thresholds the Project's impact is deemed to be less than significant.

**Table 3.6-1 Summary of Project's Peak Daily and Annual GHG Emissions**

| GHG Emissions Source | Daily Emissions | Daily Threshold | Annual Emissions Tons / Metric Tons | Annual Threshold Tons/Metric Tons | Exceeds Threshold? |
|---|---|---|---|---|---|
| Construction 2023 | 21,278 | **548,000** | 268 / 243 | **100,000 / 90,718** | **NO** |
| Construction 2024 | 17,735 | **548,000** | 1,487 / 1,349 | **100,000 / 90,718** | **NO** |
| Operations | 20,270 | **548,000** | *7,460 / 6,768* | **100,000 / 90,718** | **NO** |

### 3.6.2 GHG THRESHOLD #2

***Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?***

In determining the Project's impacts for Threshold #2 the Project was evaluated for consistency with the CARB's 2022 Scoping Plan and the City's CAP GHG Screening Table.

#### CARB 2022 Scoping Plan

On December 15, 2022, CARB adopted the Final 2022 Scoping Plan Update, which identifies the State's progress towards the statutory 2030 target, while providing a path towards carbon neutrality and reduce greenhouse gases emissions by 85% below 1990 levels by 2045. Recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (55). The Project would not conflict with any of the 2022 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project.

Additionally, the Project is consistent with the general plan land use designation, density, building intensity, and applicable policies specified for the Project area in SCAG's Sustainable Community Strategy/Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Therefore, the Project will have a less than significant impact related to GHG emissions from construction and operation.

### Victorville GHG Emissions Screening Table Review Measures

Projects in the City of Victorville are required to complete the GHG Emission Screening Table Review Measures and achieve a minimum of 100 points. Appendix D is a copy of a GHG Emissions Screening Table Review Measures Project Draft, and contains an example of how the Project can achieve 100 points on the Screening Table. Section 4 Mitigation Measures contains CAP **Mitigation Measure MM-GHG-1: GHG Emissions Screening Table Review Measures** and outlines the requirements for approval of the proposed measures the Project will implement.

Therefore, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Furthermore, the project will also comply with applicable Green Building Standards and City of Victorville's CAP policies and impacts are considered to be less than significant.

## 3.7 CUMULATIVE IMPACTS

According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[6] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

Individual projects that do not generate operational or construction emissions that exceed the MDAQMD's recommended daily and annual thresholds for project-specific impacts would also not cause a cumulatively considerable increase in GHG, and, therefore, would not be considered to have a significant, adverse GHG impact. As previously noted, the Project construction-source and operational-source GHG emissions would not exceed applicable MDAQMD thresholds. As such, Project construction and operational-source GHG emissions are considered less than significant.

[6] *California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).*

# 4 MITIGATION MEASURES

## 4.1 CAP MITIGATION

As discussed in 3.6-2 GHG Threshold 2: Victorville GHG Emissions Screening Table Review Measures, the Project is required to complete the GHG Screening Table and implement measures to provide for 100 points. As the final project design is not completed or approved by the City the following Mitigation Measure is required:

**MM-GHG-1 GHG Emissions Screening Table Review Measures**: The project shall implement the Greenhouse Gas Emissions Screening Table Review Measures (GHG Screening Table Measures) providing for a minimum 100 points per the City's Greenhouse Gas Emissions Screening Table Review form. The City shall verify incorporation of the identified GHG Screening Table Measures or equivalent replacement measures within the Project building plans and site design prior to the issuance of building permit(s) and/or site plans as applicable.

An example of how the Project could achieve a minimum of 100 GHG Emissions Screening Table points is provided in the table in Appendix D. The Project will not be required or limited to the specific measures provided the Project demonstrates a minimum of 100 points would be achieved.

# 5 CONCLUSION

The Project would not exceed the MDAQMD's Thresholds for GHGs as indicated in 3.6.1 GHG Threshold #1, nor would the Project conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing emissions of GHGs as indicated in 3.6.2 GHG Threshold #2. Therefore, the Project's GHG Impacts are less than significant.

# 6 REFERENCES

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**California Air Pollution Control Officers Association (CAPCOA) .** California Emissions Estimator Model User Guide Version 2020.4.0

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**Mojave Desert Air Quality Management District.** District Boundaries. http://mdaqmd.ca.gov/about-us/district-boundaries.

**Mojave Desert Air Quality Management District.** Mojave Desert AQMD Attainment Status. http://mdaqmd.ca.gov/home/showdocument?id=1267.

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**Southern California Association of Governments**, 2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal), 2020.

**USEPA** Overview of Greenhouse Gases: https://www.epa.gov/ghgemissions/overview-greenhouse-gases

**USDA** Carbon Dioxide Health Hazard Information Sheet: https://www.fsis.usda.gov/sites/default/files/media_file/2020-08/Carbon-Dioxide.pdf

# APPENDIX A:

# CALEEMOD EMISSIONS MODEL OUTPUTS

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

# Victorville-IPG Mojave 68 Project

**Mojave Desert AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| Refrigerated Warehouse-No Rail | 211.46 | 1000sqft | 4.85 | 211,460.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 845.84 | 1000sqft | 19.42 | 845,840.00 | 0 |
| Other Asphalt Surfaces | 1.71 | Acre | 1.71 | 74,487.60 | 0 |
| Parking Lot | 511.00 | Space | 4.60 | 204,400.00 | 0 |
| Parking Lot | 8.85 | Acre | 8.85 | 385,506.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 30 |
| **Climate Zone** | 10 | | | **Operational Year** | 2024 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 390.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - Land use per site plan and narrative

Construction Phase - No demolition phase; schedule per applicant

Grading - Acres graded and import per earthwork volume ananlysis

Architectural Coating - VOC per MDAQMD Rules

Vehicle Trips - Trip rate per traffic study scope dated: 9/26/2022

Woodstoves - No wood fireplaces

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

Area Coating - VOC per MDAQMD Rule 1113

Construction Off-road Equipment Mitigation - Construction mitigation for fugitive dust

Area Mitigation - Coatings Mitigation VOC 10g/L Low VOC cleaning supplies if available

Water Mitigation - use low flow fixtures

Fleet Mix - Fleet mix per traffic study scope dated: 9/26/2022

Operational Off-Road Equipment - Forklifts / Pallet jacks - for interior movement of goods (electric)
Yard dogs (T/L/B) for trailer movement modeled as CNG - no diesel.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialInteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblAreaMitigation | UseLowVOCPaintParkingValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 250 | 10 |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 20 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 20 |
| tblConstructionPhase | NumDays | 75.00 | 51.00 |
| tblConstructionPhase | NumDays | 740.00 | 201.00 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.12 |

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

| | | | |
|---|---|---|---|
| tblFleetMix | HHD | 0.02 | 0.12 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

| | | | |
|---|---|---|---|
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblGrading | AcresOfGrading | 153.00 | 225.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | Electrical |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 120.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 576.00 |
| tblVehicleTrips | ST_TR | 1.74 | 1.40 |

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

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 1.74 | 1.40 |
| tblVehicleTrips | WD_TR | 1.74 | 1.40 |

## 2.0 Emissions Summary

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 8.1290 | 61.3528 | 71.0459 | 0.2084 | 19.8049 | 2.2695 | 21.3390 | 10.1417 | 2.1069 | 11.3071 | 0.0000 | 20,891.0543 | 20,891.0543 | 2.7369 | 1.0697 | 21,278.2562 |
| 2024 | 66.7785 | 35.4623 | 60.9600 | 0.1728 | 9.3371 | 1.2750 | 10.6121 | 2.5212 | 1.1942 | 3.7154 | 0.0000 | 17,410.2390 | 17,410.2390 | 1.5271 | 0.9612 | 17,734.8431 |
| **Maximum** | **66.7785** | **61.3528** | **71.0459** | **0.2084** | **19.8049** | **2.2695** | **21.3390** | **10.1417** | **2.1069** | **11.3071** | **0.0000** | **20,891.0543** | **20,891.0543** | **2.7369** | **1.0697** | **21,278.2562** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 8.1290 | 61.3528 | 71.0459 | 0.2084 | 11.1538 | 2.2695 | 13.4233 | 3.9729 | 2.1069 | 5.5203 | 0.0000 | 20,891.0543 | 20,891.0543 | 2.7369 | 1.0697 | 21,278.2562 |
| 2024 | 66.7785 | 35.4623 | 60.9600 | 0.1728 | 7.7759 | 1.2750 | 9.0509 | 2.1380 | 1.1942 | 3.3322 | 0.0000 | 17,410.2390 | 17,410.2390 | 1.5271 | 0.9612 | 17,734.8431 |
| **Maximum** | **66.7785** | **61.3528** | **71.0459** | **0.2084** | **11.1538** | **2.2695** | **13.4233** | **3.9729** | **2.1069** | **5.5203** | **0.0000** | **20,891.0543** | **20,891.0543** | **2.7369** | **1.0697** | **21,278.2562** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **35.04** | **0.00** | **29.66** | **51.74** | **0.00** | **41.07** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 30.8264 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Energy | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| Mobile | 3.5051 | 16.1867 | 36.6317 | 0.1497 | 12.2863 | 0.1913 | 12.4776 | 3.3018 | 0.1815 | 3.4833 | | 15,435.7000 | 15,435.7000 | 0.3000 | 1.2701 | 15,821.7003 |
| Offroad | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **35.2824** | **25.3894** | **48.5854** | **0.1828** | **12.2863** | **0.7175** | **13.0038** | **3.3018** | **0.6865** | **3.9883** | **0.0000** | **20,756.2500** | **20,756.2500** | **0.7687** | **1.3456** | **21,176.4650** |

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

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 22.2609 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Energy | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| Mobile | 3.5051 | 16.1867 | 36.6317 | 0.1497 | 12.2863 | 0.1913 | 12.4776 | 3.3018 | 0.1815 | 3.4833 | | 15,435.7000 | 15,435.7000 | 0.3000 | 1.2701 | 15,821.7003 |
| Offroad | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **26.7168** | **25.3894** | **48.5854** | **0.1828** | **12.2863** | **0.7175** | **13.0038** | **3.3018** | **0.6865** | **3.9883** | **0.0000** | **20,756.2500** | **20,756.2500** | **0.7687** | **1.3456** | **21,176.4650** |

| | ROG | NOx | 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** | **24.28** | **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 | 9/1/2023 | 10/12/2023 | 5 | 30 | |
| 2 | Grading | Grading | 10/13/2023 | 12/23/2023 | 5 | 51 | |
| 3 | Building Construction | Building Construction | 12/23/2023 | 9/30/2024 | 5 | 201 | |
| 4 | Paving | Paving | 6/1/2024 | 9/30/2024 | 5 | 86 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Architectural Coating | Architectural Coating | 6/1/2024 | 9/30/2024 | 5 | 86 | |

**Acres of Grading (Site Preparation Phase): 45**

**Acres of Grading (Grading Phase): 225**

**Acres of Paving: 15.16**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,645,950; Non-Residential Outdoor: 548,650; Striped Parking Area: 39,864 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## Trips and VMT

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

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 576.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 736.00 | 289.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 147.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0657 | 0.0351 | 0.5089 | 1.3300e-003 | 0.1479 | 7.0000e-004 | 0.1486 | 0.0392 | 6.4000e-004 | 0.0399 | | 134.7499 | 134.7499 | 3.7300e-003 | 3.5400e-003 | 135.8980 |
| **Total** | **0.0657** | **0.0351** | **0.5089** | **1.3300e-003** | **0.1479** | **7.0000e-004** | **0.1486** | **0.0392** | **6.4000e-004** | **0.0399** | | **134.7499** | **134.7499** | **3.7300e-003** | **3.5400e-003** | **135.8980** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.6662 | 0.0000 | 7.6662 | 3.9400 | 0.0000 | 3.9400 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **7.6662** | **1.2660** | **8.9323** | **3.9400** | **1.1647** | **5.1047** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0657 | 0.0351 | 0.5089 | 1.3300e-003 | 0.1222 | 7.0000e-004 | 0.1229 | 0.0329 | 6.4000e-004 | 0.0336 | | 134.7499 | 134.7499 | 3.7300e-003 | 3.5400e-003 | 135.8980 |
| **Total** | **0.0657** | **0.0351** | **0.5089** | **1.3300e-003** | **0.1222** | **7.0000e-004** | **0.1229** | **0.0329** | **6.4000e-004** | **0.0336** | | **134.7499** | **134.7499** | **3.7300e-003** | **3.5400e-003** | **135.8980** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 10.7008 | 0.0000 | 10.7008 | 3.8154 | 0.0000 | 3.8154 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3217 | 34.5156 | 28.0512 | 0.0621 | | 1.4245 | 1.4245 | | 1.3105 | 1.3105 | | 6,011.4777 | 6,011.4777 | 1.9442 | | 6,060.0836 |
| **Total** | **3.3217** | **34.5156** | **28.0512** | **0.0621** | **10.7008** | **1.4245** | **12.1253** | **3.8154** | **1.3105** | **5.1259** | | **6,011.4777** | **6,011.4777** | **1.9442** | | **6,060.0836** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0293 | 1.1415 | 0.3432 | 6.2900e-003 | 0.1982 | 0.0160 | 0.2141 | 0.0544 | 0.0153 | 0.0697 | | 665.9433 | 665.9433 | 1.5300e-003 | 0.1047 | 697.1728 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0730 | 0.0390 | 0.5655 | 1.4800e-003 | 0.1643 | 7.8000e-004 | 0.1651 | 0.0436 | 7.1000e-004 | 0.0443 | | 149.7221 | 149.7221 | 4.1500e-003 | 3.9300e-003 | 150.9978 |
| **Total** | **0.1023** | **1.1804** | **0.9087** | **7.7700e-003** | **0.3625** | **0.0168** | **0.3792** | **0.0980** | **0.0160** | **0.1140** | | **815.6654** | **815.6654** | **5.6800e-003** | **0.1086** | **848.1706** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 4.1733 | 0.0000 | 4.1733 | 1.4880 | 0.0000 | 1.4880 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3217 | 34.5156 | 28.0512 | 0.0621 | | 1.4245 | 1.4245 | | 1.3105 | 1.3105 | 0.0000 | 6,011.4777 | 6,011.4777 | 1.9442 | | 6,060.0836 |
| **Total** | **3.3217** | **34.5156** | **28.0512** | **0.0621** | **4.1733** | **1.4245** | **5.5978** | **1.4880** | **1.3105** | **2.7985** | **0.0000** | **6,011.4777** | **6,011.4777** | **1.9442** | | **6,060.0836** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0293 | 1.1415 | 0.3432 | 6.2900e-003 | 0.1683 | 0.0160 | 0.1843 | 0.0470 | 0.0153 | 0.0623 | | 665.9433 | 665.9433 | 1.5300e-003 | 0.1047 | 697.1728 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0730 | 0.0390 | 0.5655 | 1.4800e-003 | 0.1357 | 7.8000e-004 | 0.1365 | 0.0366 | 7.1000e-004 | 0.0373 | | 149.7221 | 149.7221 | 4.1500e-003 | 3.9300e-003 | 150.9978 |
| **Total** | **0.1023** | **1.1804** | **0.9087** | **7.7700e-003** | **0.3040** | **0.0168** | **0.3208** | **0.0836** | **0.0160** | **0.0996** | | **815.6654** | **815.6654** | **5.6800e-003** | **0.1086** | **848.1706** |

## 3.4 Building Construction - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.4 Building Construction - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4456 | 9.8370 | 5.0319 | 0.0571 | 1.9602 | 0.1000 | 2.0602 | 0.5645 | 0.0956 | 0.6602 | | 5,998.9279 | 5,998.9279 | 0.0266 | 0.8164 | 6,242.8776 |
| Worker | 2.6866 | 1.4349 | 20.8101 | 0.0545 | 6.0461 | 0.0285 | 6.0746 | 1.6037 | 0.0263 | 1.6300 | | 5,509.7733 | 5,509.7733 | 0.1526 | 0.1447 | 5,556.7184 |
| **Total** | **3.1322** | **11.2719** | **25.8421** | **0.1116** | **8.0063** | **0.1285** | **8.1348** | **2.1682** | **0.1219** | **2.2901** | | **11,508.7013** | **11,508.7013** | **0.1791** | **0.9611** | **11,799.5960** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | 0.0000 | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | **0.0000** | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.4 Building Construction - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4456 | 9.8370 | 5.0319 | 0.0571 | 1.6813 | 0.1000 | 1.7813 | 0.4961 | 0.0956 | 0.5917 | | 5,998.9279 | 5,998.9279 | 0.0266 | 0.8164 | 6,242.8776 |
| Worker | 2.6866 | 1.4349 | 20.8101 | 0.0545 | 4.9952 | 0.0285 | 5.0237 | 1.3458 | 0.0263 | 1.3720 | | 5,509.7733 | 5,509.7733 | 0.1526 | 0.1447 | 5,556.7184 |
| **Total** | **3.1322** | **11.2719** | **25.8421** | **0.1116** | **6.6764** | **0.1285** | **6.8049** | **1.8418** | **0.1219** | **1.9637** | | **11,508.7013** | **11,508.7013** | **0.1791** | **0.9611** | **11,799.5960** |

## 3.4 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.4716 | 13.4438 | 16.1668 | 0.0270 | | 0.6133 | 0.6133 | | 0.5769 | 0.5769 | | 2,555.6989 | 2,555.6989 | 0.6044 | | 2,570.8077 |
| **Total** | **1.4716** | **13.4438** | **16.1668** | **0.0270** | | **0.6133** | **0.6133** | | **0.5769** | **0.5769** | | **2,555.6989** | **2,555.6989** | **0.6044** | | **2,570.8077** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.4 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4299 | 9.7239 | 4.8519 | 0.0558 | 1.9602 | 0.0994 | 2.0596 | 0.5645 | 0.0951 | 0.6596 | | 5,868.2378 | 5,868.2378 | 0.0253 | 0.7976 | 6,106.5571 |
| Worker | 2.4856 | 1.2714 | 19.2650 | 0.0527 | 6.0461 | 0.0269 | 6.0730 | 1.6037 | 0.0248 | 1.6285 | | 5,325.1870 | 5,325.1870 | 0.1374 | 0.1341 | 5,368.5691 |
| **Total** | **2.9155** | **10.9953** | **24.1169** | **0.1085** | **8.0063** | **0.1263** | **8.1326** | **2.1682** | **0.1199** | **2.2881** | | **11,193.4248** | **11,193.4248** | **0.1627** | **0.9317** | **11,475.1261** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.4716 | 13.4438 | 16.1668 | 0.0270 | | 0.6133 | 0.6133 | | 0.5769 | 0.5769 | 0.0000 | 2,555.6989 | 2,555.6989 | 0.6044 | | 2,570.8077 |
| **Total** | **1.4716** | **13.4438** | **16.1668** | **0.0270** | | **0.6133** | **0.6133** | | **0.5769** | **0.5769** | **0.0000** | **2,555.6989** | **2,555.6989** | **0.6044** | | **2,570.8077** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

## 3.4 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4299 | 9.7239 | 4.8519 | 0.0558 | 1.6813 | 0.0994 | 1.7807 | 0.4961 | 0.0951 | 0.5912 | | 5,868.2378 | 5,868.2378 | 0.0253 | 0.7976 | 6,106.5571 |
| Worker | 2.4856 | 1.2714 | 19.2650 | 0.0527 | 4.9952 | 0.0269 | 5.0221 | 1.3458 | 0.0248 | 1.3705 | | 5,325.1870 | 5,325.1870 | 0.1374 | 0.1341 | 5,368.5691 |
| **Total** | **2.9155** | **10.9953** | **24.1169** | **0.1085** | **6.6764** | **0.1263** | **6.8028** | **1.8418** | **0.1199** | **1.9617** | | **11,193.4248** | **11,193.4248** | **0.1627** | **0.9317** | **11,475.1261** |

## 3.5 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9882 | 9.5246 | 14.6258 | 0.0228 | | 0.4685 | 0.4685 | | 0.4310 | 0.4310 | | 2,207.5472 | 2,207.5472 | 0.7140 | | 2,225.3963 |
| Paving | 0.4619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.4500** | **9.5246** | **14.6258** | **0.0228** | | **0.4685** | **0.4685** | | **0.4310** | **0.4310** | | **2,207.5472** | **2,207.5472** | **0.7140** | | **2,225.3963** |

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

## 3.5 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0507 | 0.0259 | 0.3926 | 1.0700e-003 | 0.1232 | 5.5000e-004 | 0.1238 | 0.0327 | 5.0000e-004 | 0.0332 | | 108.5296 | 108.5296 | 2.8000e-003 | 2.7300e-003 | 109.4138 |
| **Total** | **0.0507** | **0.0259** | **0.3926** | **1.0700e-003** | **0.1232** | **5.5000e-004** | **0.1238** | **0.0327** | **5.0000e-004** | **0.0332** | | **108.5296** | **108.5296** | **2.8000e-003** | **2.7300e-003** | **109.4138** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9882 | 9.5246 | 14.6258 | 0.0228 | | 0.4685 | 0.4685 | | 0.4310 | 0.4310 | 0.0000 | 2,207.5472 | 2,207.5472 | 0.7140 | | 2,225.3963 |
| Paving | 0.4619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.4500** | **9.5246** | **14.6258** | **0.0228** | | **0.4685** | **0.4685** | | **0.4310** | **0.4310** | **0.0000** | **2,207.5472** | **2,207.5472** | **0.7140** | | **2,225.3963** |

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

## 3.5 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0507 | 0.0259 | 0.3926 | 1.0700e-003 | 0.1018 | 5.5000e-004 | 0.1024 | 0.0274 | 5.0000e-004 | 0.0279 | | 108.5296 | 108.5296 | 2.8000e-003 | 2.7300e-003 | 109.4138 |
| **Total** | **0.0507** | **0.0259** | **0.3926** | **1.0700e-003** | **0.1018** | **5.5000e-004** | **0.1024** | **0.0274** | **5.0000e-004** | **0.0279** | | **108.5296** | **108.5296** | **2.8000e-003** | **2.7300e-003** | **109.4138** |

## 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 60.2136 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1808 | 1.2188 | 1.8101 | 2.9700e-003 | | 0.0609 | 0.0609 | | 0.0609 | 0.0609 | | 281.4481 | 281.4481 | 0.0159 | | 281.8443 |
| **Total** | **60.3944** | **1.2188** | **1.8101** | **2.9700e-003** | | **0.0609** | **0.0609** | | **0.0609** | **0.0609** | | **281.4481** | **281.4481** | **0.0159** | | **281.8443** |

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

## 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.4964 | 0.2539 | 3.8478 | 0.0105 | 1.2076 | 5.3700e-003 | 1.2129 | 0.3203 | 4.9500e-003 | 0.3253 | | 1,063.5903 | 1,063.5903 | 0.0274 | 0.0268 | 1,072.2550 |
| **Total** | **0.4964** | **0.2539** | **3.8478** | **0.0105** | **1.2076** | **5.3700e-003** | **1.2129** | **0.3203** | **4.9500e-003** | **0.3253** | | **1,063.5903** | **1,063.5903** | **0.0274** | **0.0268** | **1,072.2550** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 60.2136 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1808 | 1.2188 | 1.8101 | 2.9700e-003 | | 0.0609 | 0.0609 | | 0.0609 | 0.0609 | 0.0000 | 281.4481 | 281.4481 | 0.0159 | | 281.8443 |
| **Total** | **60.3944** | **1.2188** | **1.8101** | **2.9700e-003** | | **0.0609** | **0.0609** | | **0.0609** | **0.0609** | **0.0000** | **281.4481** | **281.4481** | **0.0159** | | **281.8443** |

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

### 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.4964 | 0.2539 | 3.8478 | 0.0105 | 0.9977 | 5.3700e-003 | 1.0031 | 0.2688 | 4.9500e-003 | 0.2737 | | 1,063.5903 | 1,063.5903 | 0.0274 | 0.0268 | 1,072.2550 |
| **Total** | **0.4964** | **0.2539** | **3.8478** | **0.0105** | **0.9977** | **5.3700e-003** | **1.0031** | **0.2688** | **4.9500e-003** | **0.2737** | | **1,063.5903** | **1,063.5903** | **0.0274** | **0.0268** | **1,072.2550** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3.5051 | 16.1867 | 36.6317 | 0.1497 | 12.2863 | 0.1913 | 12.4776 | 3.3018 | 0.1815 | 3.4833 | | 15,435.7000 | 15,435.7000 | 0.3000 | 1.2701 | 15,821.7003 |
| Unmitigated | 3.5051 | 16.1867 | 36.6317 | 0.1497 | 12.2863 | 0.1913 | 12.4776 | 3.3018 | 0.1815 | 3.4833 | | 15,435.7000 | 15,435.7000 | 0.3000 | 1.2701 | 15,821.7003 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 389.60 | 88.40 | 28.00 | 704,772 | 704,772 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Refrigerated Warehouse-No Rail | 448.30 | 448.30 | 448.30 | 1,308,803 | 1,308,803 |
| Unrefrigerated Warehouse-No Rail | 1,184.18 | 1,184.18 | 1184.18 | 3,457,215 | 3,457,215 |
| Total | 2,022.07 | 1,720.87 | 1,660.47 | 5,470,790 | 5,470,790 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| 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 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

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

| | 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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.530590 | 0.056931 | 0.174803 | 0.137616 | 0.029294 | 0.007692 | 0.006155 | 0.022126 | 0.000483 | 0.000158 | 0.027801 | 0.000928 | 0.005423 |
| Other Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Parking Lot | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Refrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

# 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| NaturalGas Unmitigated | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 375.89 | 4.0500e-003 | 0.0369 | 0.0310 | 2.2000e-004 | | 2.8000e-003 | 2.8000e-003 | | 2.8000e-003 | 2.8000e-003 | | 44.2224 | 44.2224 | 8.5000e-004 | 8.1000e-004 | 44.4852 |
| 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 |
| 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 |
| Refrigerated Warehouse-No Rail | 29969.4 | 0.3232 | 2.9382 | 2.4681 | 0.0176 | | 0.2233 | 0.2233 | | 0.2233 | 0.2233 | | 3,525.8101 | 3,525.8101 | 0.0676 | 0.0646 | 3,546.7622 |
| Unrefrigerated Warehouse-No Rail | 4657.91 | 0.0502 | 0.4567 | 0.3836 | 2.7400e-003 | | 0.0347 | 0.0347 | | 0.0347 | 0.0347 | | 547.9898 | 547.9898 | 0.0105 | 0.0101 | 551.2462 |
| **Total** | | **0.3775** | **3.4317** | **2.8826** | **0.0206** | | **0.2608** | **0.2608** | | **0.2608** | **0.2608** | | **4,118.0223** | **4,118.0223** | **0.0789** | **0.0755** | **4,142.4937** |

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

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 0.37589 | 4.0500e-003 | 0.0369 | 0.0310 | 2.2000e-004 | | 2.8000e-003 | 2.8000e-003 | | 2.8000e-003 | 2.8000e-003 | | 44.2224 | 44.2224 | 8.5000e-004 | 8.1000e-004 | 44.4852 |
| 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 |
| 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 |
| Refrigerated Warehouse-No Rail | 29.9694 | 0.3232 | 2.9382 | 2.4681 | 0.0176 | | 0.2233 | 0.2233 | | 0.2233 | 0.2233 | | 3,525.8101 | 3,525.8101 | 0.0676 | 0.0646 | 3,546.7622 |
| Unrefrigerated Warehouse-No Rail | 4.65791 | 0.0502 | 0.4567 | 0.3836 | 2.7400e-003 | | 0.0347 | 0.0347 | | 0.0347 | 0.0347 | | 547.9898 | 547.9898 | 0.0105 | 0.0101 | 551.2462 |
| **Total** | | **0.3775** | **3.4317** | **2.8826** | **0.0206** | | **0.2608** | **0.2608** | | **0.2608** | **0.2608** | | **4,118.0223** | **4,118.0223** | **0.0789** | **0.0755** | **4,142.4937** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 22.2609 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Unmitigated | 30.8264 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 7.0937 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 23.7176 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 0.0152 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| **Total** | **30.8265** | **1.5000e-003** | **0.1650** | **1.0000e-005** | | **5.9000e-004** | **5.9000e-004** | | **5.9000e-004** | **5.9000e-004** | | **0.3543** | **0.3543** | **9.2000e-004** | | **0.3774** |

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

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2838 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 21.9619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 0.0152 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| **Total** | **22.2609** | **1.5000e-003** | **0.1650** | **1.0000e-005** | | **5.9000e-004** | **5.9000e-004** | | **5.9000e-004** | **5.9000e-004** | | **0.3543** | **0.3543** | **9.2000e-004** | | **0.3774** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 120 | 8.00 | 365 | 89 | 0.20 | Electrical |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | CNG |

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | lb/day | | | | | | | | | | lb/day | | | | | |
| Forklifts | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Tractors/Loaders/Backhoes | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **0.5734** | **5.7695** | **8.9062** | **0.0124** | | **0.2648** | **0.2648** | | **0.2436** | **0.2436** | **0.0000** | **1,202.1734** | **1,202.1734** | **0.3888** | | **1,211.8936** |

## 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

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Summer

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

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

# Victorville-IPG Mojave 68 Project

**Mojave Desert AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| Refrigerated Warehouse-No Rail | 211.46 | 1000sqft | 4.85 | 211,460.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 845.84 | 1000sqft | 19.42 | 845,840.00 | 0 |
| Other Asphalt Surfaces | 1.71 | Acre | 1.71 | 74,487.60 | 0 |
| Parking Lot | 511.00 | Space | 4.60 | 204,400.00 | 0 |
| Parking Lot | 8.85 | Acre | 8.85 | 385,506.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 30 |
| **Climate Zone** | 10 | | | **Operational Year** | 2024 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 390.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - Land use per site plan and narrative

Construction Phase - No demolition phase; schedule per applicant

Grading - Acres graded and import per earthwork volume ananlysis

Architectural Coating - VOC per MDAQMD Rules

Vehicle Trips - Trip rate per traffic study scope dated: 9/26/2022

Woodstoves - No wood fireplaces

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

Area Coating - VOC per MDAQMD Rule 1113

Construction Off-road Equipment Mitigation - Construction mitigation for fugitive dust

Area Mitigation - Coatings Mitigation VOC 10g/L Low VOC cleaning supplies if available

Water Mitigation - use low flow fixtures

Fleet Mix - Fleet mix per traffic study scope dated: 9/26/2022

Operational Off-Road Equipment - Forklifts / Pallet jacks - for interior movement of goods (electric)
Yard dogs (T/L/B) for trailer movement modeled as CNG - no diesel.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialInteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblAreaMitigation | UseLowVOCPaintParkingValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 250 | 10 |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 20 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 20 |
| tblConstructionPhase | NumDays | 75.00 | 51.00 |
| tblConstructionPhase | NumDays | 740.00 | 201.00 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.12 |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| | | | |
|---|---|---|---|
| tblFleetMix | HHD | 0.02 | 0.12 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |

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

| | | | |
|---|---|---|---|
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblGrading | AcresOfGrading | 153.00 | 225.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | Electrical |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 120.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 576.00 |
| tblVehicleTrips | ST_TR | 1.74 | 1.40 |

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

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 1.74 | 1.40 |
| tblVehicleTrips | WD_TR | 1.74 | 1.40 |

## 2.0 Emissions Summary

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 7.8265 | 62.0953 | 66.9439 | 0.2023 | 19.8049 | 2.2698 | 21.3393 | 10.1417 | 2.1072 | 11.3071 | 0.0000 | 20,278.3552 | 20,278.3552 | 2.7386 | 1.0761 | 20,667.4878 |
| 2024 | 66.4582 | 36.1307 | 56.4647 | 0.1658 | 9.3371 | 1.2753 | 10.6124 | 2.5212 | 1.1945 | 3.7157 | 0.0000 | 16,704.4651 | 16,704.4651 | 1.5298 | 0.9674 | 17,030.9880 |
| **Maximum** | **66.4582** | **62.0953** | **66.9439** | **0.2023** | **19.8049** | **2.2698** | **21.3393** | **10.1417** | **2.1072** | **11.3071** | **0.0000** | **20,278.3552** | **20,278.3552** | **2.7386** | **1.0761** | **20,667.4878** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 7.8265 | 62.0953 | 66.9439 | 0.2023 | 11.1538 | 2.2698 | 13.4236 | 3.9729 | 2.1072 | 5.5206 | 0.0000 | 20,278.3552 | 20,278.3552 | 2.7386 | 1.0761 | 20,667.4878 |
| 2024 | 66.4582 | 36.1307 | 56.4647 | 0.1658 | 7.7759 | 1.2753 | 9.0512 | 2.1380 | 1.1945 | 3.3325 | 0.0000 | 16,704.4651 | 16,704.4651 | 1.5298 | 0.9674 | 17,030.9880 |
| **Maximum** | **66.4582** | **62.0953** | **66.9439** | **0.2023** | **11.1538** | **2.2698** | **13.4236** | **3.9729** | **2.1072** | **5.5206** | **0.0000** | **20,278.3552** | **20,278.3552** | **2.7386** | **1.0761** | **20,667.4878** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **35.04** | **0.00** | **29.66** | **51.74** | **0.00** | **41.07** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 30.8264 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Energy | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| Mobile | 2.8706 | 17.1825 | 32.1984 | 0.1407 | 12.2863 | 0.1917 | 12.4780 | 3.3018 | 0.1819 | 3.4837 | | 14,526.1915 | 14,526.1915 | 0.3124 | 1.2793 | 14,915.2396 |
| Offroad | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **34.6479** | **26.3852** | **44.1522** | **0.1737** | **12.2863** | **0.7179** | **13.0042** | **3.3018** | **0.6869** | **3.9887** | **0.0000** | **19,846.7415** | **19,846.7415** | **0.7811** | **1.3548** | **20,270.0043** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 22.2609 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Energy | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| Mobile | 2.8706 | 17.1825 | 32.1984 | 0.1407 | 12.2863 | 0.1917 | 12.4780 | 3.3018 | 0.1819 | 3.4837 | | 14,526.1915 | 14,526.1915 | 0.3124 | 1.2793 | 14,915.2396 |
| Offroad | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **26.0823** | **26.3852** | **44.1522** | **0.1737** | **12.2863** | **0.7179** | **13.0042** | **3.3018** | **0.6869** | **3.9887** | **0.0000** | **19,846.7415** | **19,846.7415** | **0.7811** | **1.3548** | **20,270.0043** |

| | ROG | NOx | 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** | **24.72** | **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 | 9/1/2023 | 10/12/2023 | 5 | 30 | |
| 2 | Grading | Grading | 10/13/2023 | 12/23/2023 | 5 | 51 | |
| 3 | Building Construction | Building Construction | 12/23/2023 | 9/30/2024 | 5 | 201 | |
| 4 | Paving | Paving | 6/1/2024 | 9/30/2024 | 5 | 86 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Architectural Coating | Architectural Coating | 6/1/2024 | 9/30/2024 | 5 | 86 | |

**Acres of Grading (Site Preparation Phase): 45**

**Acres of Grading (Grading Phase): 225**

**Acres of Paving: 15.16**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,645,950; Non-Residential Outdoor: 548,650; Striped Parking Area: 39,864 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

## Trips and VMT

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 576.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 736.00 | 289.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 147.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0593 | 0.0361 | 0.4069 | 1.1800e-003 | 0.1479 | 7.0000e-004 | 0.1486 | 0.0392 | 6.4000e-004 | 0.0399 | | 119.7291 | 119.7291 | 3.8000e-003 | 3.6000e-003 | 120.8967 |
| **Total** | **0.0593** | **0.0361** | **0.4069** | **1.1800e-003** | **0.1479** | **7.0000e-004** | **0.1486** | **0.0392** | **6.4000e-004** | **0.0399** | | **119.7291** | **119.7291** | **3.8000e-003** | **3.6000e-003** | **120.8967** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.6662 | 0.0000 | 7.6662 | 3.9400 | 0.0000 | 3.9400 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **7.6662** | **1.2660** | **8.9323** | **3.9400** | **1.1647** | **5.1047** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0593 | 0.0361 | 0.4069 | 1.1800e-003 | 0.1222 | 7.0000e-004 | 0.1229 | 0.0329 | 6.4000e-004 | 0.0336 | | 119.7291 | 119.7291 | 3.8000e-003 | 3.6000e-003 | 120.8967 |
| **Total** | **0.0593** | **0.0361** | **0.4069** | **1.1800e-003** | **0.1222** | **7.0000e-004** | **0.1229** | **0.0329** | **6.4000e-004** | **0.0336** | | **119.7291** | **119.7291** | **3.8000e-003** | **3.6000e-003** | **120.8967** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 10.7008 | 0.0000 | 10.7008 | 3.8154 | 0.0000 | 3.8154 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3217 | 34.5156 | 28.0512 | 0.0621 | | 1.4245 | 1.4245 | | 1.3105 | 1.3105 | | 6,011.4777 | 6,011.4777 | 1.9442 | | 6,060.0836 |
| **Total** | **3.3217** | **34.5156** | **28.0512** | **0.0621** | **10.7008** | **1.4245** | **12.1253** | **3.8154** | **1.3105** | **5.1259** | | **6,011.4777** | **6,011.4777** | **1.9442** | | **6,060.0836** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0268 | 1.2095 | 0.3512 | 6.3000e-003 | 0.1982 | 0.0160 | 0.2142 | 0.0544 | 0.0153 | 0.0697 | | 667.2716 | 667.2716 | 1.4100e-003 | 0.1049 | 698.5606 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0658 | 0.0401 | 0.4521 | 1.3200e-003 | 0.1643 | 7.8000e-004 | 0.1651 | 0.0436 | 7.1000e-004 | 0.0443 | | 133.0323 | 133.0323 | 4.2300e-003 | 4.0000e-003 | 134.3297 |
| **Total** | **0.0926** | **1.2496** | **0.8033** | **7.6200e-003** | **0.3625** | **0.0168** | **0.3792** | **0.0980** | **0.0160** | **0.1140** | | **800.3039** | **800.3039** | **5.6400e-003** | **0.1089** | **832.8903** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 4.1733 | 0.0000 | 4.1733 | 1.4880 | 0.0000 | 1.4880 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.3217 | 34.5156 | 28.0512 | 0.0621 | | 1.4245 | 1.4245 | | 1.3105 | 1.3105 | 0.0000 | 6,011.4777 | 6,011.4777 | 1.9442 | | 6,060.0836 |
| **Total** | **3.3217** | **34.5156** | **28.0512** | **0.0621** | **4.1733** | **1.4245** | **5.5978** | **1.4880** | **1.3105** | **2.7985** | **0.0000** | **6,011.4777** | **6,011.4777** | **1.9442** | | **6,060.0836** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0268 | 1.2095 | 0.3512 | 6.3000e-003 | 0.1683 | 0.0160 | 0.1843 | 0.0470 | 0.0153 | 0.0624 | | 667.2716 | 667.2716 | 1.4100e-003 | 0.1049 | 698.5606 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0658 | 0.0401 | 0.4521 | 1.3200e-003 | 0.1357 | 7.8000e-004 | 0.1365 | 0.0366 | 7.1000e-004 | 0.0373 | | 133.0323 | 133.0323 | 4.2300e-003 | 4.0000e-003 | 134.3297 |
| **Total** | **0.0926** | **1.2496** | **0.8033** | **7.6200e-003** | **0.3040** | **0.0168** | **0.3208** | **0.0836** | **0.0160** | **0.0996** | | **800.3039** | **800.3039** | **5.6400e-003** | **0.1089** | **832.8903** |

## 3.4 Building Construction - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.4 Building Construction - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4164 | 10.4700 | 5.2068 | 0.0572 | 1.9602 | 0.1003 | 2.0605 | 0.5645 | 0.0959 | 0.6605 | | 6,015.7748 | 6,015.7748 | 0.0253 | 0.8200 | 6,260.7745 |
| Worker | 2.4230 | 1.4753 | 16.6386 | 0.0484 | 6.0461 | 0.0285 | 6.0746 | 1.6037 | 0.0263 | 1.6300 | | 4,895.5889 | 4,895.5889 | 0.1556 | 0.1472 | 4,943.3333 |
| **Total** | **2.8395** | **11.9452** | **21.8454** | **0.1057** | **8.0063** | **0.1288** | **8.1351** | **2.1682** | **0.1222** | **2.2904** | | **10,911.3636** | **10,911.3636** | **0.1809** | **0.9672** | **11,204.1078** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | 0.0000 | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | **0.0000** | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.4 Building Construction - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4164 | 10.4700 | 5.2068 | 0.0572 | 1.6813 | 0.1003 | 1.7816 | 0.4961 | 0.0959 | 0.5920 | | 6,015.7748 | 6,015.7748 | 0.0253 | 0.8200 | 6,260.7745 |
| Worker | 2.4230 | 1.4753 | 16.6386 | 0.0484 | 4.9952 | 0.0285 | 5.0237 | 1.3458 | 0.0263 | 1.3720 | | 4,895.5889 | 4,895.5889 | 0.1556 | 0.1472 | 4,943.3333 |
| **Total** | **2.8395** | **11.9452** | **21.8454** | **0.1057** | **6.6764** | **0.1288** | **6.8053** | **1.8418** | **0.1222** | **1.9640** | | **10,911.3636** | **10,911.3636** | **0.1809** | **0.9672** | **11,204.1078** |

## 3.4 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.4716 | 13.4438 | 16.1668 | 0.0270 | | 0.6133 | 0.6133 | | 0.5769 | 0.5769 | | 2,555.6989 | 2,555.6989 | 0.6044 | | 2,570.8077 |
| **Total** | **1.4716** | **13.4438** | **16.1668** | **0.0270** | | **0.6133** | **0.6133** | | **0.5769** | **0.5769** | | **2,555.6989** | **2,555.6989** | **0.6044** | | **2,570.8077** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.4 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4009 | 10.3492 | 5.0278 | 0.0560 | 1.9602 | 0.0997 | 2.0599 | 0.5645 | 0.0954 | 0.6599 | | 5,884.8938 | 5,884.8938 | 0.0241 | 0.8011 | 6,124.2239 |
| Worker | 2.2468 | 1.3068 | 15.4365 | 0.0468 | 6.0461 | 0.0269 | 6.0730 | 1.6037 | 0.0248 | 1.6285 | | 4,733.0842 | 4,733.0842 | 0.1406 | 0.1363 | 4,777.2103 |
| **Total** | **2.6477** | **11.6560** | **20.4643** | **0.1028** | **8.0063** | **0.1266** | **8.1329** | **2.1682** | **0.1202** | **2.2884** | | **10,617.9780** | **10,617.9780** | **0.1647** | **0.9374** | **10,901.4342** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.4716 | 13.4438 | 16.1668 | 0.0270 | | 0.6133 | 0.6133 | | 0.5769 | 0.5769 | 0.0000 | 2,555.6989 | 2,555.6989 | 0.6044 | | 2,570.8077 |
| **Total** | **1.4716** | **13.4438** | **16.1668** | **0.0270** | | **0.6133** | **0.6133** | | **0.5769** | **0.5769** | **0.0000** | **2,555.6989** | **2,555.6989** | **0.6044** | | **2,570.8077** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.4 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.4009 | 10.3492 | 5.0278 | 0.0560 | 1.6813 | 0.0997 | 1.7810 | 0.4961 | 0.0954 | 0.5915 | | 5,884.8938 | 5,884.8938 | 0.0241 | 0.8011 | 6,124.2239 |
| Worker | 2.2468 | 1.3068 | 15.4365 | 0.0468 | 4.9952 | 0.0269 | 5.0221 | 1.3458 | 0.0248 | 1.3705 | | 4,733.0842 | 4,733.0842 | 0.1406 | 0.1363 | 4,777.2103 |
| **Total** | **2.6477** | **11.6560** | **20.4643** | **0.1028** | **6.6764** | **0.1266** | **6.8031** | **1.8418** | **0.1202** | **1.9620** | | **10,617.9780** | **10,617.9780** | **0.1647** | **0.9374** | **10,901.4342** |

## 3.5 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9882 | 9.5246 | 14.6258 | 0.0228 | | 0.4685 | 0.4685 | | 0.4310 | 0.4310 | | 2,207.5472 | 2,207.5472 | 0.7140 | | 2,225.3963 |
| Paving | 0.4619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.4500** | **9.5246** | **14.6258** | **0.0228** | | **0.4685** | **0.4685** | | **0.4310** | **0.4310** | | **2,207.5472** | **2,207.5472** | **0.7140** | | **2,225.3963** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.5 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0458 | 0.0266 | 0.3146 | 9.5000e-004 | 0.1232 | 5.5000e-004 | 0.1238 | 0.0327 | 5.0000e-004 | 0.0332 | | 96.4623 | 96.4623 | 2.8700e-003 | 2.7800e-003 | 97.3616 |
| **Total** | **0.0458** | **0.0266** | **0.3146** | **9.5000e-004** | **0.1232** | **5.5000e-004** | **0.1238** | **0.0327** | **5.0000e-004** | **0.0332** | | **96.4623** | **96.4623** | **2.8700e-003** | **2.7800e-003** | **97.3616** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9882 | 9.5246 | 14.6258 | 0.0228 | | 0.4685 | 0.4685 | | 0.4310 | 0.4310 | 0.0000 | 2,207.5472 | 2,207.5472 | 0.7140 | | 2,225.3963 |
| Paving | 0.4619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.4500** | **9.5246** | **14.6258** | **0.0228** | | **0.4685** | **0.4685** | | **0.4310** | **0.4310** | **0.0000** | **2,207.5472** | **2,207.5472** | **0.7140** | | **2,225.3963** |

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

## 3.5 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0458 | 0.0266 | 0.3146 | 9.5000e-004 | 0.1018 | 5.5000e-004 | 0.1024 | 0.0274 | 5.0000e-004 | 0.0279 | | 96.4623 | 96.4623 | 2.8700e-003 | 2.7800e-003 | 97.3616 |
| **Total** | **0.0458** | **0.0266** | **0.3146** | **9.5000e-004** | **0.1018** | **5.5000e-004** | **0.1024** | **0.0274** | **5.0000e-004** | **0.0279** | | **96.4623** | **96.4623** | **2.8700e-003** | **2.7800e-003** | **97.3616** |

## 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 60.2136 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1808 | 1.2188 | 1.8101 | 2.9700e-003 | | 0.0609 | 0.0609 | | 0.0609 | 0.0609 | | 281.4481 | 281.4481 | 0.0159 | | 281.8443 |
| **Total** | **60.3944** | **1.2188** | **1.8101** | **2.9700e-003** | | **0.0609** | **0.0609** | | **0.0609** | **0.0609** | | **281.4481** | **281.4481** | **0.0159** | | **281.8443** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

## 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.4488 | 0.2610 | 3.0831 | 9.3500e-003 | 1.2076 | 5.3700e-003 | 1.2129 | 0.3203 | 4.9500e-003 | 0.3253 | | 945.3307 | 945.3307 | 0.0281 | 0.0272 | 954.1439 |
| **Total** | **0.4488** | **0.2610** | **3.0831** | **9.3500e-003** | **1.2076** | **5.3700e-003** | **1.2129** | **0.3203** | **4.9500e-003** | **0.3253** | | **945.3307** | **945.3307** | **0.0281** | **0.0272** | **954.1439** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 60.2136 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1808 | 1.2188 | 1.8101 | 2.9700e-003 | | 0.0609 | 0.0609 | | 0.0609 | 0.0609 | 0.0000 | 281.4481 | 281.4481 | 0.0159 | | 281.8443 |
| **Total** | **60.3944** | **1.2188** | **1.8101** | **2.9700e-003** | | **0.0609** | **0.0609** | | **0.0609** | **0.0609** | **0.0000** | **281.4481** | **281.4481** | **0.0159** | | **281.8443** |

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

### 3.6 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.4488 | 0.2610 | 3.0831 | 9.3500e-003 | 0.9977 | 5.3700e-003 | 1.0031 | 0.2688 | 4.9500e-003 | 0.2737 | | 945.3307 | 945.3307 | 0.0281 | 0.0272 | 954.1439 |
| **Total** | **0.4488** | **0.2610** | **3.0831** | **9.3500e-003** | **0.9977** | **5.3700e-003** | **1.0031** | **0.2688** | **4.9500e-003** | **0.2737** | | **945.3307** | **945.3307** | **0.0281** | **0.0272** | **954.1439** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 2.8706 | 17.1825 | 32.1984 | 0.1407 | 12.2863 | 0.1917 | 12.4780 | 3.3018 | 0.1819 | 3.4837 | | 14,526.1915 | 14,526.1915 | 0.3124 | 1.2793 | 14,915.2396 |
| Unmitigated | 2.8706 | 17.1825 | 32.1984 | 0.1407 | 12.2863 | 0.1917 | 12.4780 | 3.3018 | 0.1819 | 3.4837 | | 14,526.1915 | 14,526.1915 | 0.3124 | 1.2793 | 14,915.2396 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 389.60 | 88.40 | 28.00 | 704,772 | 704,772 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Refrigerated Warehouse-No Rail | 448.30 | 448.30 | 448.30 | 1,308,803 | 1,308,803 |
| Unrefrigerated Warehouse-No Rail | 1,184.18 | 1,184.18 | 1184.18 | 3,457,215 | 3,457,215 |
| Total | 2,022.07 | 1,720.87 | 1,660.47 | 5,470,790 | 5,470,790 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| 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 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

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

| | 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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.530590 | 0.056931 | 0.174803 | 0.137616 | 0.029294 | 0.007692 | 0.006155 | 0.022126 | 0.000483 | 0.000158 | 0.027801 | 0.000928 | 0.005423 |
| Other Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Parking Lot | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Refrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |
| NaturalGas Unmitigated | 0.3775 | 3.4317 | 2.8826 | 0.0206 | | 0.2608 | 0.2608 | | 0.2608 | 0.2608 | | 4,118.0223 | 4,118.0223 | 0.0789 | 0.0755 | 4,142.4937 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 375.89 | 4.0500e-003 | 0.0369 | 0.0310 | 2.2000e-004 | | 2.8000e-003 | 2.8000e-003 | | 2.8000e-003 | 2.8000e-003 | | 44.2224 | 44.2224 | 8.5000e-004 | 8.1000e-004 | 44.4852 |
| 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 |
| 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 |
| Refrigerated Warehouse-No Rail | 29969.4 | 0.3232 | 2.9382 | 2.4681 | 0.0176 | | 0.2233 | 0.2233 | | 0.2233 | 0.2233 | | 3,525.8101 | 3,525.8101 | 0.0676 | 0.0646 | 3,546.7622 |
| Unrefrigerated Warehouse-No Rail | 4657.91 | 0.0502 | 0.4567 | 0.3836 | 2.7400e-003 | | 0.0347 | 0.0347 | | 0.0347 | 0.0347 | | 547.9898 | 547.9898 | 0.0105 | 0.0101 | 551.2462 |
| **Total** | | **0.3775** | **3.4317** | **2.8826** | **0.0206** | | **0.2608** | **0.2608** | | **0.2608** | **0.2608** | | **4,118.0223** | **4,118.0223** | **0.0789** | **0.0755** | **4,142.4937** |

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

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 0.37589 | 4.0500e-003 | 0.0369 | 0.0310 | 2.2000e-004 | | 2.8000e-003 | 2.8000e-003 | | 2.8000e-003 | 2.8000e-003 | | 44.2224 | 44.2224 | 8.5000e-004 | 8.1000e-004 | 44.4852 |
| 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 |
| 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 |
| Refrigerated Warehouse-No Rail | 29.9694 | 0.3232 | 2.9382 | 2.4681 | 0.0176 | | 0.2233 | 0.2233 | | 0.2233 | 0.2233 | | 3,525.8101 | 3,525.8101 | 0.0676 | 0.0646 | 3,546.7622 |
| Unrefrigerated Warehouse-No Rail | 4.65791 | 0.0502 | 0.4567 | 0.3836 | 2.7400e-003 | | 0.0347 | 0.0347 | | 0.0347 | 0.0347 | | 547.9898 | 547.9898 | 0.0105 | 0.0101 | 551.2462 |
| **Total** | | **0.3775** | **3.4317** | **2.8826** | **0.0206** | | **0.2608** | **0.2608** | | **0.2608** | **0.2608** | | **4,118.0223** | **4,118.0223** | **0.0789** | **0.0755** | **4,142.4937** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 22.2609 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| Unmitigated | 30.8264 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 7.0937 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 23.7176 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 0.0152 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| **Total** | **30.8265** | **1.5000e-003** | **0.1650** | **1.0000e-005** | | **5.9000e-004** | **5.9000e-004** | | **5.9000e-004** | **5.9000e-004** | | **0.3543** | **0.3543** | **9.2000e-004** | | **0.3774** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.2838 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 21.9619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 0.0152 | 1.5000e-003 | 0.1650 | 1.0000e-005 | | 5.9000e-004 | 5.9000e-004 | | 5.9000e-004 | 5.9000e-004 | | 0.3543 | 0.3543 | 9.2000e-004 | | 0.3774 |
| **Total** | **22.2609** | **1.5000e-003** | **0.1650** | **1.0000e-005** | | **5.9000e-004** | **5.9000e-004** | | **5.9000e-004** | **5.9000e-004** | | **0.3543** | **0.3543** | **9.2000e-004** | | **0.3774** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 120 | 8.00 | 365 | 89 | 0.20 | Electrical |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | CNG |

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | lb/day | | | | | | | | | | lb/day | | | | | |
| Forklifts | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Tractors/Loaders/Backhoes | 0.5734 | 5.7695 | 8.9062 | 0.0124 | | 0.2648 | 0.2648 | | 0.2436 | 0.2436 | 0.0000 | 1,202.1734 | 1,202.1734 | 0.3888 | | 1,211.8936 |
| **Total** | **0.5734** | **5.7695** | **8.9062** | **0.0124** | | **0.2648** | **0.2648** | | **0.2436** | **0.2436** | **0.0000** | **1,202.1734** | **1,202.1734** | **0.3888** | | **1,211.8936** |

## 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

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Winter

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

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

# Victorville-IPG Mojave 68 Project

**Mojave Desert AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| Refrigerated Warehouse-No Rail | 211.46 | 1000sqft | 4.85 | 211,460.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 845.84 | 1000sqft | 19.42 | 845,840.00 | 0 |
| Other Asphalt Surfaces | 1.71 | Acre | 1.71 | 74,487.60 | 0 |
| Parking Lot | 511.00 | Space | 4.60 | 204,400.00 | 0 |
| Parking Lot | 8.85 | Acre | 8.85 | 385,506.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 30 |
| **Climate Zone** | 10 | | | **Operational Year** | 2024 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 390.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - Land use per site plan and narrative

Construction Phase - No demolition phase; schedule per applicant

Grading - Acres graded and import per earthwork volume ananlysis

Architectural Coating - VOC per MDAQMD Rules

Vehicle Trips - Trip rate per traffic study scope dated: 9/26/2022

Woodstoves - No wood fireplaces

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

Area Coating - VOC per MDAQMD Rule 1113

Construction Off-road Equipment Mitigation - Construction mitigation for fugitive dust

Area Mitigation - Coatings Mitigation VOC 10g/L Low VOC cleaning supplies if available

Water Mitigation - use low flow fixtures

Operational Off-Road Equipment - Forklifts / Pallet jacks - for interior movement of goods (electric)
Yard dogs (T/L/B) for trailer movement modeled as CNG - no diesel.

Fleet Mix - Fleet mix per traffic study scope dated: 9/26/2022

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialInteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblAreaMitigation | UseLowVOCPaintParkingValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialExteriorValue | 250 | 10 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 250 | 10 |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 20 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 20 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblConstructionPhase | NumDays | 740.00 | 201.00 |
| tblConstructionPhase | NumDays | 75.00 | 51.00 |
| tblConstructionPhase | NumDays | 55.00 | 86.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.00 |
| tblFleetMix | HHD | 0.02 | 0.12 |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

| | | | |
|---|---|---|---|
| tblFleetMix | HHD | 0.02 | 0.12 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.00 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDA | 0.53 | 0.80 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT1 | 0.06 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LDT2 | 0.17 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD1 | 0.03 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.00 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | LHD2 | 7.6920e-003 | 0.03 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MCY | 0.03 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |
| tblFleetMix | MDV | 0.14 | 0.00 |

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

| | | | |
|---|---|---|---|
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MH | 5.4230e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.00 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | MHD | 6.1550e-003 | 0.05 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | OBUS | 4.8300e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | SBUS | 9.2800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblFleetMix | UBUS | 1.5800e-004 | 0.00 |
| tblGrading | AcresOfGrading | 153.00 | 225.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | Electrical |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 120.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 576.00 |
| tblVehicleTrips | ST_TR | 1.74 | 1.40 |

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

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 1.74 | 1.40 |
| tblVehicleTrips | WD_TR | 1.74 | 1.40 |

## 2.0 Emissions Summary

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.1383 | 1.3914 | 1.1147 | 2.7000e-003 | 0.5987 | 0.0578 | 0.6565 | 0.2572 | 0.0533 | 0.3105 | 0.0000 | 240.3310 | 240.3310 | 0.0632 | 4.7800e-003 | 243.3341 |
| 2024 | 3.0682 | 2.9347 | 4.5536 | 0.0144 | 0.8274 | 0.0955 | 0.9229 | 0.2241 | 0.0897 | 0.3138 | 0.0000 | 1,321.0356 | 1,321.0356 | 0.0985 | 0.0850 | 1,348.8163 |
| **Maximum** | **3.0682** | **2.9347** | **4.5536** | **0.0144** | **0.8274** | **0.0955** | **0.9229** | **0.2572** | **0.0897** | **0.3138** | **0.0000** | **1,321.0356** | **1,321.0356** | **0.0985** | **0.0850** | **1,348.8163** |

### 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 | 0.1383 | 1.3914 | 1.1147 | 2.7000e-003 | 0.2473 | 0.0578 | 0.3051 | 0.1042 | 0.0533 | 0.1574 | 0.0000 | 240.3308 | 240.3308 | 0.0632 | 4.7800e-003 | 243.3338 |
| 2024 | 3.0682 | 2.9347 | 4.5536 | 0.0144 | 0.6900 | 0.0955 | 0.7856 | 0.1904 | 0.0897 | 0.2801 | 0.0000 | 1,321.0352 | 1,321.0352 | 0.0985 | 0.0850 | 1,348.8159 |
| **Maximum** | **3.0682** | **2.9347** | **4.5536** | **0.0144** | **0.6900** | **0.0955** | **0.7856** | **0.1904** | **0.0897** | **0.2801** | **0.0000** | **1,321.0352** | **1,321.0352** | **0.0985** | **0.0850** | **1,348.8159** |

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **34.28** | **0.00** | **30.95** | **38.80** | **0.00** | **29.91** | **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** | **9-1-2023** | **11-30-2023** | 1.1399 | 1.1399 |
| **2** | **12-1-2023** | **2-29-2024** | 1.0468 | 1.0468 |
| **3** | **3-1-2024** | **5-31-2024** | 0.9515 | 0.9515 |
| **4** | **6-1-2024** | **8-31-2024** | 3.3593 | 3.3593 |
| **5** | **9-1-2024** | **9-30-2024** | 1.0954 | 1.0954 |
| | | **Highest** | 3.3593 | 3.3593 |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 5.6244 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |
| Energy | 0.0689 | 0.6263 | 0.5261 | 3.7600e-003 | | 0.0476 | 0.0476 | | 0.0476 | 0.0476 | 0.0000 | 2,625.6662 | 2,625.6662 | 0.1771 | 0.0324 | 2,639.7458 |
| Mobile | 0.4780 | 3.0537 | 5.7406 | 0.0251 | 2.1120 | 0.0341 | 2.1461 | 0.5686 | 0.0323 | 0.6010 | 0.0000 | 2,351.5039 | 2,351.5039 | 0.0481 | 0.2077 | 2,414.5905 |
| Offroad | 0.1051 | 1.0572 | 1.6320 | 2.2800e-003 | | 0.0485 | 0.0485 | | 0.0446 | 0.0446 | 0.0000 | 199.8432 | 199.8432 | 0.0646 | 0.0000 | 201.4591 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 209.2959 | 0.0000 | 209.2959 | 12.3690 | 0.0000 | 518.5216 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 79.8242 | 589.6072 | 669.4314 | 8.2485 | 0.1996 | 935.1306 |
| **Total** | **6.2763** | **4.7373** | **7.9135** | **0.0312** | **2.1120** | **0.1302** | **2.2423** | **0.5686** | **0.1246** | **0.6933** | **289.1201** | **5,766.6494** | **6,055.7695** | **20.9074** | **0.4397** | **6,709.4785** |

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

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4.0612 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |
| Energy | 0.0689 | 0.6263 | 0.5261 | 3.7600e-003 | | 0.0476 | 0.0476 | | 0.0476 | 0.0476 | 0.0000 | 2,625.6662 | 2,625.6662 | 0.1771 | 0.0324 | 2,639.7458 |
| Mobile | 0.4780 | 3.0537 | 5.7406 | 0.0251 | 2.1120 | 0.0341 | 2.1461 | 0.5686 | 0.0323 | 0.6010 | 0.0000 | 2,351.5039 | 2,351.5039 | 0.0481 | 0.2077 | 2,414.5905 |
| Offroad | 0.1051 | 1.0572 | 1.6320 | 2.2800e-003 | | 0.0485 | 0.0485 | | 0.0446 | 0.0446 | 0.0000 | 199.8432 | 199.8432 | 0.0646 | 0.0000 | 201.4591 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 209.2959 | 0.0000 | 209.2959 | 12.3690 | 0.0000 | 518.5216 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 69.9580 | 517.2692 | 587.2271 | 7.2290 | 0.1750 | 820.0887 |
| **Total** | **4.7131** | **4.7373** | **7.9135** | **0.0312** | **2.1120** | **0.1302** | **2.2423** | **0.5686** | **0.1246** | **0.6933** | **279.2538** | **5,694.3114** | **5,973.5652** | **19.8879** | **0.4150** | **6,594.4365** |

| | ROG | NOx | 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** | **24.91** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.41** | **1.25** | **1.36** | **4.88** | **5.61** | **1.71** |

## 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 | 9/1/2023 | 10/12/2023 | 5 | 30 | |
| 2 | Grading | Grading | 10/13/2023 | 12/23/2023 | 5 | 51 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Building Construction | Building Construction | 12/23/2023 | 9/30/2024 | 5 | 201 | |
| 4 | Paving | Paving | 6/1/2024 | 9/30/2024 | 5 | 86 | |
| 5 | Architectural Coating | Architectural Coating | 6/1/2024 | 9/30/2024 | 5 | 86 | |

**Acres of Grading (Site Preparation Phase): 45**

**Acres of Grading (Grading Phase): 225**

**Acres of Paving: 15.16**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,645,950; Non-Residential Outdoor: 548,650; Striped Parking Area: 39,864 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

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

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 576.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 736.00 | 289.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 147.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 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 | | | | | 0.2949 | 0.0000 | 0.2949 | 0.1515 | 0.0000 | 0.1515 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0399 | 0.4129 | 0.2737 | 5.7000e-004 | | 0.0190 | 0.0190 | | 0.0175 | 0.0175 | 0.0000 | 50.1760 | 50.1760 | 0.0162 | 0.0000 | 50.5817 |
| **Total** | **0.0399** | **0.4129** | **0.2737** | **5.7000e-004** | **0.2949** | **0.0190** | **0.3139** | **0.1515** | **0.0175** | **0.1690** | **0.0000** | **50.1760** | **50.1760** | **0.0162** | **0.0000** | **50.5817** |

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

## 3.2 Site Preparation - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.3000e-004 | 5.8000e-004 | 6.5400e-003 | 2.0000e-005 | 2.1800e-003 | 1.0000e-005 | 2.1900e-003 | 5.8000e-004 | 1.0000e-005 | 5.9000e-004 | 0.0000 | 1.6752 | 1.6752 | 5.0000e-005 | 5.0000e-005 | 1.6917 |
| **Total** | **8.3000e-004** | **5.8000e-004** | **6.5400e-003** | **2.0000e-005** | **2.1800e-003** | **1.0000e-005** | **2.1900e-003** | **5.8000e-004** | **1.0000e-005** | **5.9000e-004** | **0.0000** | **1.6752** | **1.6752** | **5.0000e-005** | **5.0000e-005** | **1.6917** |

### 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 | | | | | 0.1150 | 0.0000 | 0.1150 | 0.0591 | 0.0000 | 0.0591 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0399 | 0.4129 | 0.2737 | 5.7000e-004 | | 0.0190 | 0.0190 | | 0.0175 | 0.0175 | 0.0000 | 50.1760 | 50.1760 | 0.0162 | 0.0000 | 50.5817 |
| **Total** | **0.0399** | **0.4129** | **0.2737** | **5.7000e-004** | **0.1150** | **0.0190** | **0.1340** | **0.0591** | **0.0175** | **0.0766** | **0.0000** | **50.1760** | **50.1760** | **0.0162** | **0.0000** | **50.5817** |

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

## 3.2 Site Preparation - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.3000e-004 | 5.8000e-004 | 6.5400e-003 | 2.0000e-005 | 1.8000e-003 | 1.0000e-005 | 1.8100e-003 | 4.9000e-004 | 1.0000e-005 | 5.0000e-004 | 0.0000 | 1.6752 | 1.6752 | 5.0000e-005 | 5.0000e-005 | 1.6917 |
| **Total** | **8.3000e-004** | **5.8000e-004** | **6.5400e-003** | **2.0000e-005** | **1.8000e-003** | **1.0000e-005** | **1.8100e-003** | **4.9000e-004** | **1.0000e-005** | **5.0000e-004** | **0.0000** | **1.6752** | **1.6752** | **5.0000e-005** | **5.0000e-005** | **1.6917** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.2729 | 0.0000 | 0.2729 | 0.0973 | 0.0000 | 0.0973 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0847 | 0.8802 | 0.7153 | 1.5800e-003 | | 0.0363 | 0.0363 | | 0.0334 | 0.0334 | 0.0000 | 139.0648 | 139.0648 | 0.0450 | 0.0000 | 140.1892 |
| **Total** | **0.0847** | **0.8802** | **0.7153** | **1.5800e-003** | **0.2729** | **0.0363** | **0.3092** | **0.0973** | **0.0334** | **0.1307** | **0.0000** | **139.0648** | **139.0648** | **0.0450** | **0.0000** | **140.1892** |

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

## 3.3 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 | 7.2000e-004 | 0.0308 | 8.8300e-003 | 1.6000e-004 | 4.9700e-003 | 4.1000e-004 | 5.3800e-003 | 1.3700e-003 | 3.9000e-004 | 1.7600e-003 | 0.0000 | 15.4183 | 15.4183 | 3.0000e-005 | 2.4200e-003 | 16.1413 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5600e-003 | 1.0900e-003 | 0.0124 | 3.0000e-005 | 4.1100e-003 | 2.0000e-005 | 4.1300e-003 | 1.0900e-003 | 2.0000e-005 | 1.1100e-003 | 0.0000 | 3.1642 | 3.1642 | 1.0000e-004 | 1.0000e-004 | 3.1955 |
| **Total** | **2.2800e-003** | **0.0319** | **0.0212** | **1.9000e-004** | **9.0800e-003** | **4.3000e-004** | **9.5100e-003** | **2.4600e-003** | **4.1000e-004** | **2.8700e-003** | **0.0000** | **18.5825** | **18.5825** | **1.3000e-004** | **2.5200e-003** | **19.3368** |

### 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 | | | | | 0.1064 | 0.0000 | 0.1064 | 0.0379 | 0.0000 | 0.0379 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0847 | 0.8802 | 0.7153 | 1.5800e-003 | | 0.0363 | 0.0363 | | 0.0334 | 0.0334 | 0.0000 | 139.0646 | 139.0646 | 0.0450 | 0.0000 | 140.1890 |
| **Total** | **0.0847** | **0.8802** | **0.7153** | **1.5800e-003** | **0.1064** | **0.0363** | **0.1427** | **0.0379** | **0.0334** | **0.0714** | **0.0000** | **139.0646** | **139.0646** | **0.0450** | **0.0000** | **140.1890** |

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

## 3.3 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 | 7.2000e-004 | 0.0308 | 8.8300e-003 | 1.6000e-004 | 4.2300e-003 | 4.1000e-004 | 4.6400e-003 | 1.1800e-003 | 3.9000e-004 | 1.5700e-003 | 0.0000 | 15.4183 | 15.4183 | 3.0000e-005 | 2.4200e-003 | 16.1413 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5600e-003 | 1.0900e-003 | 0.0124 | 3.0000e-005 | 3.4000e-003 | 2.0000e-005 | 3.4200e-003 | 9.2000e-004 | 2.0000e-005 | 9.4000e-004 | 0.0000 | 3.1642 | 3.1642 | 1.0000e-004 | 1.0000e-004 | 3.1955 |
| **Total** | **2.2800e-003** | **0.0319** | **0.0212** | **1.9000e-004** | **7.6300e-003** | **4.3000e-004** | **8.0600e-003** | **2.1000e-003** | **4.1000e-004** | **2.5100e-003** | **0.0000** | **18.5825** | **18.5825** | **1.3000e-004** | **2.5200e-003** | **19.3368** |

## 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 | 3.9300e-003 | 0.0360 | 0.0406 | 7.0000e-005 | | 1.7500e-003 | 1.7500e-003 | | 1.6500e-003 | 1.6500e-003 | 0.0000 | 5.7951 | 5.7951 | 1.3800e-003 | 0.0000 | 5.8296 |
| **Total** | **3.9300e-003** | **0.0360** | **0.0406** | **7.0000e-005** | | **1.7500e-003** | **1.7500e-003** | | **1.6500e-003** | **1.6500e-003** | **0.0000** | **5.7951** | **5.7951** | **1.3800e-003** | **0.0000** | **5.8296** |

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

## 3.4 Building Construction - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0700e-003 | 0.0260 | 0.0128 | 1.4000e-004 | 4.8300e-003 | 2.5000e-004 | 5.0800e-003 | 1.3900e-003 | 2.4000e-004 | 1.6300e-003 | 0.0000 | 13.6215 | 13.6215 | 6.0000e-005 | 1.8600e-003 | 14.1763 |
| Worker | 5.6300e-003 | 3.9300e-003 | 0.0446 | 1.2000e-004 | 0.0149 | 7.0000e-005 | 0.0149 | 3.9400e-003 | 7.0000e-005 | 4.0100e-003 | 0.0000 | 11.4159 | 11.4159 | 3.6000e-004 | 3.5000e-004 | 11.5287 |
| **Total** | **6.7000e-003** | **0.0299** | **0.0574** | **2.6000e-004** | **0.0197** | **3.2000e-004** | **0.0200** | **5.3300e-003** | **3.1000e-004** | **5.6400e-003** | **0.0000** | **25.0374** | **25.0374** | **4.2000e-004** | **2.2100e-003** | **25.7051** |

### 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 | 3.9300e-003 | 0.0360 | 0.0406 | 7.0000e-005 | | 1.7500e-003 | 1.7500e-003 | | 1.6500e-003 | 1.6500e-003 | 0.0000 | 5.7951 | 5.7951 | 1.3800e-003 | 0.0000 | 5.8296 |
| **Total** | **3.9300e-003** | **0.0360** | **0.0406** | **7.0000e-005** | | **1.7500e-003** | **1.7500e-003** | | **1.6500e-003** | **1.6500e-003** | **0.0000** | **5.7951** | **5.7951** | **1.3800e-003** | **0.0000** | **5.8296** |

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

## 3.4 Building Construction - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0700e-003 | 0.0260 | 0.0128 | 1.4000e-004 | 4.1500e-003 | 2.5000e-004 | 4.4000e-003 | 1.2300e-003 | 2.4000e-004 | 1.4700e-003 | 0.0000 | 13.6215 | 13.6215 | 6.0000e-005 | 1.8600e-003 | 14.1763 |
| Worker | 5.6300e-003 | 3.9300e-003 | 0.0446 | 1.2000e-004 | 0.0123 | 7.0000e-005 | 0.0123 | 3.3100e-003 | 7.0000e-005 | 3.3800e-003 | 0.0000 | 11.4159 | 11.4159 | 3.6000e-004 | 3.5000e-004 | 11.5287 |
| **Total** | **6.7000e-003** | **0.0299** | **0.0574** | **2.6000e-004** | **0.0164** | **3.2000e-004** | **0.0167** | **4.5400e-003** | **3.1000e-004** | **4.8500e-003** | **0.0000** | **25.0374** | **25.0374** | **4.2000e-004** | **2.2100e-003** | **25.7051** |

## 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 | 0.1442 | 1.3175 | 1.5844 | 2.6400e-003 | | 0.0601 | 0.0601 | | 0.0565 | 0.0565 | 0.0000 | 227.2121 | 227.2121 | 0.0537 | 0.0000 | 228.5554 |
| **Total** | **0.1442** | **1.3175** | **1.5844** | **2.6400e-003** | | **0.0601** | **0.0601** | | **0.0565** | **0.0565** | **0.0000** | **227.2121** | **227.2121** | **0.0537** | **0.0000** | **228.5554** |

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

## 3.4 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0404 | 1.0059 | 0.4846 | 5.4800e-003 | 0.1893 | 9.7600e-003 | 0.1991 | 0.0546 | 9.3300e-003 | 0.0640 | 0.0000 | 522.3352 | 522.3352 | 2.2100e-003 | 0.0711 | 543.5817 |
| Worker | 0.2045 | 0.1363 | 1.6214 | 4.7200e-003 | 0.5819 | 2.6400e-003 | 0.5846 | 0.1546 | 2.4300e-003 | 0.1570 | 0.0000 | 432.6140 | 432.6140 | 0.0128 | 0.0126 | 436.6987 |
| **Total** | **0.2449** | **1.1421** | **2.1059** | **0.0102** | **0.7712** | **0.0124** | **0.7836** | **0.2092** | **0.0118** | **0.2210** | **0.0000** | **954.9492** | **954.9492** | **0.0150** | **0.0837** | **980.2805** |

### 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 | 0.1442 | 1.3175 | 1.5844 | 2.6400e-003 | | 0.0601 | 0.0601 | | 0.0565 | 0.0565 | 0.0000 | 227.2119 | 227.2119 | 0.0537 | 0.0000 | 228.5551 |
| **Total** | **0.1442** | **1.3175** | **1.5844** | **2.6400e-003** | | **0.0601** | **0.0601** | | **0.0565** | **0.0565** | **0.0000** | **227.2119** | **227.2119** | **0.0537** | **0.0000** | **228.5551** |

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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 | 0.0404 | 1.0059 | 0.4846 | 5.4800e-003 | 0.1625 | 9.7600e-003 | 0.1723 | 0.0481 | 9.3300e-003 | 0.0574 | 0.0000 | 522.3352 | 522.3352 | 2.2100e-003 | 0.0711 | 543.5817 |
| Worker | 0.2045 | 0.1363 | 1.6214 | 4.7200e-003 | 0.4811 | 2.6400e-003 | 0.4837 | 0.1298 | 2.4300e-003 | 0.1322 | 0.0000 | 432.6140 | 432.6140 | 0.0128 | 0.0126 | 436.6987 |
| **Total** | **0.2449** | **1.1421** | **2.1059** | **0.0102** | **0.6436** | **0.0124** | **0.6560** | **0.1779** | **0.0118** | **0.1896** | **0.0000** | **954.9492** | **954.9492** | **0.0150** | **0.0837** | **980.2805** |

## 3.5 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0425 | 0.4096 | 0.6289 | 9.8000e-004 | | 0.0202 | 0.0202 | | 0.0185 | 0.0185 | 0.0000 | 86.1141 | 86.1141 | 0.0279 | 0.0000 | 86.8104 |
| Paving | 0.0199 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0624** | **0.4096** | **0.6289** | **9.8000e-004** | | **0.0202** | **0.0202** | | **0.0185** | **0.0185** | **0.0000** | **86.1141** | **86.1141** | **0.0279** | **0.0000** | **86.8104** |

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

## 3.5 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8300e-003 | 1.2200e-003 | 0.0145 | 4.0000e-005 | 5.2000e-003 | 2.0000e-005 | 5.2300e-003 | 1.3800e-003 | 2.0000e-005 | 1.4000e-003 | 0.0000 | 3.8686 | 3.8686 | 1.1000e-004 | 1.1000e-004 | 3.9052 |
| **Total** | **1.8300e-003** | **1.2200e-003** | **0.0145** | **4.0000e-005** | **5.2000e-003** | **2.0000e-005** | **5.2300e-003** | **1.3800e-003** | **2.0000e-005** | **1.4000e-003** | **0.0000** | **3.8686** | **3.8686** | **1.1000e-004** | **1.1000e-004** | **3.9052** |

### 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 | 0.0425 | 0.4096 | 0.6289 | 9.8000e-004 | | 0.0202 | 0.0202 | | 0.0185 | 0.0185 | 0.0000 | 86.1140 | 86.1140 | 0.0279 | 0.0000 | 86.8103 |
| Paving | 0.0199 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0624** | **0.4096** | **0.6289** | **9.8000e-004** | | **0.0202** | **0.0202** | | **0.0185** | **0.0185** | **0.0000** | **86.1140** | **86.1140** | **0.0279** | **0.0000** | **86.8103** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 3.5 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8300e-003 | 1.2200e-003 | 0.0145 | 4.0000e-005 | 4.3000e-003 | 2.0000e-005 | 4.3300e-003 | 1.1600e-003 | 2.0000e-005 | 1.1800e-003 | 0.0000 | 3.8686 | 3.8686 | 1.1000e-004 | 1.1000e-004 | 3.9052 |
| **Total** | **1.8300e-003** | **1.2200e-003** | **0.0145** | **4.0000e-005** | **4.3000e-003** | **2.0000e-005** | **4.3300e-003** | **1.1600e-003** | **2.0000e-005** | **1.1800e-003** | **0.0000** | **3.8686** | **3.8686** | **1.1000e-004** | **1.1000e-004** | **3.9052** |

## 3.6 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 | 2.5892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7700e-003 | 0.0524 | 0.0778 | 1.3000e-004 | | 2.6200e-003 | 2.6200e-003 | | 2.6200e-003 | 2.6200e-003 | 0.0000 | 10.9790 | 10.9790 | 6.2000e-004 | 0.0000 | 10.9945 |
| **Total** | **2.5970** | **0.0524** | **0.0778** | **1.3000e-004** | | **2.6200e-003** | **2.6200e-003** | | **2.6200e-003** | **2.6200e-003** | **0.0000** | **10.9790** | **10.9790** | **6.2000e-004** | **0.0000** | **10.9945** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 3.6 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 | 0.0179 | 0.0119 | 0.1421 | 4.1000e-004 | 0.0510 | 2.3000e-004 | 0.0512 | 0.0136 | 2.1000e-004 | 0.0138 | 0.0000 | 37.9125 | 37.9125 | 1.1200e-003 | 1.1100e-003 | 38.2705 |
| **Total** | **0.0179** | **0.0119** | **0.1421** | **4.1000e-004** | **0.0510** | **2.3000e-004** | **0.0512** | **0.0136** | **2.1000e-004** | **0.0138** | **0.0000** | **37.9125** | **37.9125** | **1.1200e-003** | **1.1100e-003** | **38.2705** |

### 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 | 2.5892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7700e-003 | 0.0524 | 0.0778 | 1.3000e-004 | | 2.6200e-003 | 2.6200e-003 | | 2.6200e-003 | 2.6200e-003 | 0.0000 | 10.9790 | 10.9790 | 6.2000e-004 | 0.0000 | 10.9944 |
| **Total** | **2.5970** | **0.0524** | **0.0778** | **1.3000e-004** | | **2.6200e-003** | **2.6200e-003** | | **2.6200e-003** | **2.6200e-003** | **0.0000** | **10.9790** | **10.9790** | **6.2000e-004** | **0.0000** | **10.9944** |

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

### 3.6 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 | 0.0179 | 0.0119 | 0.1421 | 4.1000e-004 | 0.0422 | 2.3000e-004 | 0.0424 | 0.0114 | 2.1000e-004 | 0.0116 | 0.0000 | 37.9125 | 37.9125 | 1.1200e-003 | 1.1100e-003 | 38.2705 |
| **Total** | **0.0179** | **0.0119** | **0.1421** | **4.1000e-004** | **0.0422** | **2.3000e-004** | **0.0424** | **0.0114** | **2.1000e-004** | **0.0116** | **0.0000** | **37.9125** | **37.9125** | **1.1200e-003** | **1.1100e-003** | **38.2705** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.4780 | 3.0537 | 5.7406 | 0.0251 | 2.1120 | 0.0341 | 2.1461 | 0.5686 | 0.0323 | 0.6010 | 0.0000 | 2,351.5039 | 2,351.5039 | 0.0481 | 0.2077 | 2,414.5905 |
| Unmitigated | 0.4780 | 3.0537 | 5.7406 | 0.0251 | 2.1120 | 0.0341 | 2.1461 | 0.5686 | 0.0323 | 0.6010 | 0.0000 | 2,351.5039 | 2,351.5039 | 0.0481 | 0.2077 | 2,414.5905 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 389.60 | 88.40 | 28.00 | 704,772 | 704,772 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Refrigerated Warehouse-No Rail | 448.30 | 448.30 | 448.30 | 1,308,803 | 1,308,803 |
| Unrefrigerated Warehouse-No Rail | 1,184.18 | 1,184.18 | 1184.18 | 3,457,215 | 3,457,215 |
| Total | 2,022.07 | 1,720.87 | 1,660.47 | 5,470,790 | 5,470,790 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| 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 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

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

| | 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 |
| Parking Lot | 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 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.530590 | 0.056931 | 0.174803 | 0.137616 | 0.029294 | 0.007692 | 0.006155 | 0.022126 | 0.000483 | 0.000158 | 0.027801 | 0.000928 | 0.005423 |
| Other Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Parking Lot | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Refrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.795700 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.034600 | 0.046400 | 0.123300 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1,943.8814 | 1,943.8814 | 0.1641 | 0.0199 | 1,953.9095 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1,943.8814 | 1,943.8814 | 0.1641 | 0.0199 | 1,953.9095 |
| NaturalGas Mitigated | 0.0689 | 0.6263 | 0.5261 | 3.7600e-003 | | 0.0476 | 0.0476 | | 0.0476 | 0.0476 | 0.0000 | 681.7848 | 681.7848 | 0.0131 | 0.0125 | 685.8363 |
| NaturalGas Unmitigated | 0.0689 | 0.6263 | 0.5261 | 3.7600e-003 | | 0.0476 | 0.0476 | | 0.0476 | 0.0476 | 0.0000 | 681.7848 | 681.7848 | 0.0131 | 0.0125 | 685.8363 |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| General Office Building | 137200 | 7.4000e-004 | 6.7300e-003 | 5.6500e-003 | 4.0000e-005 | | 5.1000e-004 | 5.1000e-004 | | 5.1000e-004 | 5.1000e-004 | 0.0000 | 7.3215 | 7.3215 | 1.4000e-004 | 1.3000e-004 | 7.3650 |
| 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 | 1.09388e+007 | 0.0590 | 0.5362 | 0.4504 | 3.2200e-003 | | 0.0408 | 0.0408 | | 0.0408 | 0.0408 | 0.0000 | 583.7374 | 583.7374 | 0.0112 | 0.0107 | 587.2063 |
| Unrefrigerated Warehouse-No Rail | 1.70014e+006 | 9.1700e-003 | 0.0833 | 0.0700 | 5.0000e-004 | | 6.3300e-003 | 6.3300e-003 | | 6.3300e-003 | 6.3300e-003 | 0.0000 | 90.7259 | 90.7259 | 1.7400e-003 | 1.6600e-003 | 91.2650 |
| **Total** | | **0.0689** | **0.6263** | **0.5261** | **3.7600e-003** | | **0.0476** | **0.0476** | | **0.0476** | **0.0476** | **0.0000** | **681.7848** | **681.7848** | **0.0131** | **0.0125** | **685.8363** |

Victorville-IPG Mojave 68 Project - Mojave Desert AQMD Air District, Annual

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

## 5.2 Energy by Land Use - NaturalGas

**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 | | | | | |
| General Office Building | 137200 | 7.4000e-004 | 6.7300e-003 | 5.6500e-003 | 4.0000e-005 | | 5.1000e-004 | 5.1000e-004 | | 5.1000e-004 | 5.1000e-004 | 0.0000 | 7.3215 | 7.3215 | 1.4000e-004 | 1.3000e-004 | 7.3650 |
| 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 | 1.09388e+007 | 0.0590 | 0.5362 | 0.4504 | 3.2200e-003 | | 0.0408 | 0.0408 | | 0.0408 | 0.0408 | 0.0000 | 583.7374 | 583.7374 | 0.0112 | 0.0107 | 587.2063 |
| Unrefrigerated Warehouse-No Rail | 1.70014e+006 | 9.1700e-003 | 0.0833 | 0.0700 | 5.0000e-004 | | 6.3300e-003 | 6.3300e-003 | | 6.3300e-003 | 6.3300e-003 | 0.0000 | 90.7259 | 90.7259 | 1.7400e-003 | 1.6600e-003 | 91.2650 |
| **Total** | | **0.0689** | **0.6263** | **0.5261** | **3.7600e-003** | | **0.0476** | **0.0476** | | **0.0476** | **0.0476** | **0.0000** | **681.7848** | **681.7848** | **0.0131** | **0.0125** | **685.8363** |

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

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 367600 | 65.1922 | 5.5000e-003 | 6.7000e-004 | 65.5285 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 134927 | 23.9287 | 2.0200e-003 | 2.4000e-004 | 24.0522 |
| Parking Lot | 71540 | 12.6873 | 1.0700e-003 | 1.3000e-004 | 12.7528 |
| Refrigerated Warehouse-No Rail | 8.42457e+006 | 1,494.0593 | 0.1261 | 0.0153 | 1,501.7669 |
| Unrefrigerated Warehouse-No Rail | 1.96235e+006 | 348.0138 | 0.0294 | 3.5600e-003 | 349.8092 |
| **Total** | | **1,943.8814** | **0.1641** | **0.0199** | **1,953.9095** |

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

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 367600 | 65.1922 | 5.5000e-003 | 6.7000e-004 | 65.5285 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 134927 | 23.9287 | 2.0200e-003 | 2.4000e-004 | 24.0522 |
| Parking Lot | 71540 | 12.6873 | 1.0700e-003 | 1.3000e-004 | 12.7528 |
| Refrigerated Warehouse-No Rail | 8.42457e+006 | 1,494.0593 | 0.1261 | 0.0153 | 1,501.7669 |
| Unrefrigerated Warehouse-No Rail | 1.96235e+006 | 348.0138 | 0.0294 | 3.5600e-003 | 349.8092 |
| **Total** | | **1,943.8814** | **0.1641** | **0.0199** | **1,953.9095** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4.0612 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |
| Unmitigated | 5.6244 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |

## 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 | 1.2946 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 4.3285 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.3700e-003 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |
| **Total** | **5.6244** | **1.3000e-004** | **0.0149** | **0.0000** | | **5.0000e-005** | **5.0000e-005** | | **5.0000e-005** | **5.0000e-005** | **0.0000** | **0.0289** | **0.0289** | **8.0000e-005** | **0.0000** | **0.0308** |

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

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0518 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 4.0080 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.3700e-003 | 1.3000e-004 | 0.0149 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0289 | 0.0289 | 8.0000e-005 | 0.0000 | 0.0308 |
| **Total** | **4.0612** | **1.3000e-004** | **0.0149** | **0.0000** | | **5.0000e-005** | **5.0000e-005** | | **5.0000e-005** | **5.0000e-005** | **0.0000** | **0.0289** | **0.0289** | **8.0000e-005** | **0.0000** | **0.0308** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

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

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 587.2271 | 7.2290 | 0.1750 | 820.0887 |
| Unmitigated | 669.4314 | 8.2485 | 0.1996 | 935.1306 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 7.10935 / 4.35734 | 27.2578 | 0.2338 | 5.7300e-003 | 34.8083 |
| 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 | 48.9001 / 0 | 128.4347 | 1.6029 | 0.0388 | 180.0645 |
| Unrefrigerated Warehouse-No Rail | 195.601 / 0 | 513.7389 | 6.4118 | 0.1551 | 720.2579 |
| **Total** | | **669.4314** | **8.2485** | **0.1996** | **935.1306** |

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

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 6.23063 / 4.09155 | 24.4262 | 0.2049 | 5.0200e-003 | 31.0462 |
| 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 | 42.8561 / 0 | 112.5602 | 1.4048 | 0.0340 | 157.8085 |
| Unrefrigerated Warehouse-No Rail | 171.424 / 0 | 450.2408 | 5.6193 | 0.1359 | 631.2340 |
| **Total** | | **587.2271** | **7.2290** | **0.1750** | **820.0887** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

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

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 209.2959 | 12.3690 | 0.0000 | 518.5216 |
| Unmitigated | 209.2959 | 12.3690 | 0.0000 | 518.5216 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| General Office Building | 37.2 | 7.5513 | 0.4463 | 0.0000 | 18.7079 |
| 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 | 198.77 | 40.3485 | 2.3845 | 0.0000 | 99.9617 |
| Unrefrigerated Warehouse-No Rail | 795.09 | 161.3961 | 9.5382 | 0.0000 | 399.8520 |
| **Total** | | **209.2959** | **12.3690** | **0.0000** | **518.5216** |

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

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| General Office Building | 37.2 | 7.5513 | 0.4463 | 0.0000 | 18.7079 |
| 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 | 198.77 | 40.3485 | 2.3845 | 0.0000 | 99.9617 |
| Unrefrigerated Warehouse-No Rail | 795.09 | 161.3961 | 9.5382 | 0.0000 | 399.8520 |
| **Total** | | **209.2959** | **12.3690** | **0.0000** | **518.5216** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Forklifts | 120 | 8.00 | 365 | 89 | 0.20 | Electrical |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | CNG |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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 | | | | | |
| Forklifts | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Tractors/Loaders/ Backhoes | 0.1051 | 1.0572 | 1.6320 | 2.2800e-003 | | 0.0485 | 0.0485 | | 0.0446 | 0.0446 | 0.0000 | 199.8432 | 199.8432 | 0.0646 | 0.0000 | 201.4591 |
| **Total** | **0.1051** | **1.0572** | **1.6320** | **2.2800e-003** | | **0.0485** | **0.0485** | | **0.0446** | **0.0446** | **0.0000** | **199.8432** | **199.8432** | **0.0646** | **0.0000** | **201.4591** |

## 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

# Victorville-IPG Mojave 68 Project

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

**Mojave Desert AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

# Victorville-IPG Mojave 68 Project

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

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Air Compressors | Diesel | No Change | 0 | 1 | No Change | 0.00 |
| Cranes | Diesel | No Change | 0 | 1 | No Change | 0.00 |
| Excavators | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Forklifts | Diesel | No Change | 0 | 3 | No Change | 0.00 |
| Generator Sets | Diesel | No Change | 0 | 1 | No Change | 0.00 |
| Graders | Diesel | No Change | 0 | 1 | No Change | 0.00 |
| Pavers | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Paving Equipment | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Rollers | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Rubber Tired Dozers | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Scrapers | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 9 | No Change | 0.00 |
| Welders | Diesel | No Change | 0 | 1 | No Change | 0.00 |

# Victorville-IPG Mojave 68 Project

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

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Air Compressors | 7.77000E-003 | 5.24100E-002 | 7.78400E-002 | 1.30000E-004 | 2.62000E-003 | 2.62000E-003 | 0.00000E+000 | 1.09790E+001 | 1.09790E+001 | 6.20000E-004 | 0.00000E+000 | 1.09945E+001 |
| Cranes | 2.92200E-002 | 3.08840E-001 | 1.56190E-001 | 5.10000E-004 | 1.28500E-002 | 1.18200E-002 | 0.00000E+000 | 4.45792E+001 | 4.45792E+001 | 1.44200E-002 | 0.00000E+000 | 4.49396E+001 |
| Excavators | 9.62000E-003 | 7.89800E-002 | 1.66150E-001 | 2.60000E-004 | 3.87000E-003 | 3.56000E-003 | 0.00000E+000 | 2.31381E+001 | 2.31381E+001 | 7.48000E-003 | 0.00000E+000 | 2.33252E+001 |
| Forklifts | 2.84600E-002 | 2.66950E-001 | 3.43540E-001 | 4.60000E-004 | 1.54500E-002 | 1.42100E-002 | 0.00000E+000 | 4.04888E+001 | 4.04888E+001 | 1.30900E-002 | 0.00000E+000 | 4.08162E+001 |
| Generator Sets | 2.87000E-002 | 2.56150E-001 | 3.68230E-001 | 6.60000E-004 | 1.11700E-002 | 1.11700E-002 | 0.00000E+000 | 5.68034E+001 | 5.68034E+001 | 2.30000E-003 | 0.00000E+000 | 5.68610E+001 |
| Graders | 9.78000E-003 | 1.18650E-001 | 4.31600E-002 | 1.70000E-004 | 3.84000E-003 | 3.54000E-003 | 0.00000E+000 | 1.48250E+001 | 1.48250E+001 | 4.79000E-003 | 0.00000E+000 | 1.49449E+001 |
| Pavers | 1.57900E-002 | 1.49800E-001 | 2.48800E-001 | 4.00000E-004 | 6.99000E-003 | 6.44000E-003 | 0.00000E+000 | 3.55108E+001 | 3.55108E+001 | 1.14800E-002 | 0.00000E+000 | 3.57979E+001 |
| Paving Equipment | 1.41700E-002 | 1.28670E-001 | 2.21010E-001 | 3.50000E-004 | 6.21000E-003 | 5.72000E-003 | 0.00000E+000 | 3.07754E+001 | 3.07754E+001 | 9.95000E-003 | 0.00000E+000 | 3.10242E+001 |
| Rollers | 1.25300E-002 | 1.31090E-001 | 1.59110E-001 | 2.30000E-004 | 6.94000E-003 | 6.38000E-003 | 0.00000E+000 | 1.98279E+001 | 1.98279E+001 | 6.41000E-003 | 0.00000E+000 | 1.99882E+001 |
| Rubber Tired Dozers | 4.82700E-002 | 5.02460E-001 | 2.19000E-001 | 6.00000E-004 | 2.26300E-002 | 2.08200E-002 | 0.00000E+000 | 5.28921E+001 | 5.28921E+001 | 1.71100E-002 | 0.00000E+000 | 5.33198E+001 |
| Scrapers | 4.01300E-002 | 4.22450E-001 | 3.12990E-001 | 7.70000E-004 | 1.65600E-002 | 1.52400E-002 | 0.00000E+000 | 6.80176E+001 | 6.80176E+001 | 2.20000E-002 | 0.00000E+000 | 6.85676E+001 |
| Tractors/Loaders/ Backhoes | 5.48200E-002 | 5.53100E-001 | 8.37430E-001 | 1.17000E-003 | 2.60100E-002 | 2.39300E-002 | 0.00000E+000 | 1.02588E+002 | 1.02588E+002 | 3.31800E-002 | 0.00000E+000 | 1.03417E+002 |
| Welders | 2.37500E-002 | 1.38870E-001 | 1.67240E-001 | 2.60000E-004 | 4.79000E-003 | 4.79000E-003 | 0.00000E+000 | 1.89162E+001 | 1.89162E+001 | 1.93000E-003 | 0.00000E+000 | 1.89645E+001 |

# Victorville-IPG Mojave 68 Project

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

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Air Compressors | 7.77000E-003 | 5.24100E-002 | 7.78400E-002 | 1.30000E-004 | 2.62000E-003 | 2.62000E-003 | 0.00000E+000 | 1.09790E+001 | 1.09790E+001 | 6.20000E-004 | 0.00000E+000 | 1.09944E+001 |
| Cranes | 2.92200E-002 | 3.08840E-001 | 1.56190E-001 | 5.10000E-004 | 1.28500E-002 | 1.18200E-002 | 0.00000E+000 | 4.45791E+001 | 4.45791E+001 | 1.44200E-002 | 0.00000E+000 | 4.49396E+001 |
| Excavators | 9.62000E-003 | 7.89800E-002 | 1.66150E-001 | 2.60000E-004 | 3.87000E-003 | 3.56000E-003 | 0.00000E+000 | 2.31381E+001 | 2.31381E+001 | 7.48000E-003 | 0.00000E+000 | 2.33252E+001 |
| Forklifts | 2.84600E-002 | 2.66950E-001 | 3.43540E-001 | 4.60000E-004 | 1.54500E-002 | 1.42100E-002 | 0.00000E+000 | 4.04888E+001 | 4.04888E+001 | 1.30900E-002 | 0.00000E+000 | 4.08162E+001 |
| Generator Sets | 2.87000E-002 | 2.56150E-001 | 3.68230E-001 | 6.60000E-004 | 1.11700E-002 | 1.11700E-002 | 0.00000E+000 | 5.68033E+001 | 5.68033E+001 | 2.30000E-003 | 0.00000E+000 | 5.68609E+001 |
| Graders | 9.78000E-003 | 1.18650E-001 | 4.31600E-002 | 1.70000E-004 | 3.84000E-003 | 3.54000E-003 | 0.00000E+000 | 1.48250E+001 | 1.48250E+001 | 4.79000E-003 | 0.00000E+000 | 1.49449E+001 |
| Pavers | 1.57900E-002 | 1.49800E-001 | 2.48800E-001 | 4.00000E-004 | 6.99000E-003 | 6.44000E-003 | 0.00000E+000 | 3.55108E+001 | 3.55108E+001 | 1.14800E-002 | 0.00000E+000 | 3.57979E+001 |
| Paving Equipment | 1.41700E-002 | 1.28670E-001 | 2.21010E-001 | 3.50000E-004 | 6.21000E-003 | 5.72000E-003 | 0.00000E+000 | 3.07753E+001 | 3.07753E+001 | 9.95000E-003 | 0.00000E+000 | 3.10242E+001 |
| Rollers | 1.25300E-002 | 1.31090E-001 | 1.59110E-001 | 2.30000E-004 | 6.94000E-003 | 6.38000E-003 | 0.00000E+000 | 1.98279E+001 | 1.98279E+001 | 6.41000E-003 | 0.00000E+000 | 1.99882E+001 |
| Rubber Tired Dozers | 4.82700E-002 | 5.02460E-001 | 2.19000E-001 | 6.00000E-004 | 2.26300E-002 | 2.08200E-002 | 0.00000E+000 | 5.28920E+001 | 5.28920E+001 | 1.71100E-002 | 0.00000E+000 | 5.33197E+001 |
| Scrapers | 4.01200E-002 | 4.22450E-001 | 3.12990E-001 | 7.70000E-004 | 1.65600E-002 | 1.52400E-002 | 0.00000E+000 | 6.80175E+001 | 6.80175E+001 | 2.20000E-002 | 0.00000E+000 | 6.85675E+001 |
| Tractors/Loaders/Backhoes | 5.48200E-002 | 5.53100E-001 | 8.37430E-001 | 1.17000E-003 | 2.60100E-002 | 2.39300E-002 | 0.00000E+000 | 1.02588E+002 | 1.02588E+002 | 3.31800E-002 | 0.00000E+000 | 1.03417E+002 |
| Welders | 2.37500E-002 | 1.38870E-001 | 1.67240E-001 | 2.60000E-004 | 4.79000E-003 | 4.79000E-003 | 0.00000E+000 | 1.89162E+001 | 1.89162E+001 | 1.93000E-003 | 0.00000E+000 | 1.89645E+001 |

# Victorville-IPG Mojave 68 Project

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

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Air Compressors | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 9.10831E-007 | 9.10831E-007 | 0.00000E+000 | 0.00000E+000 | 1.81910E-006 |
| Cranes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.12160E-006 | 1.12160E-006 | 0.00000E+000 | 0.00000E+000 | 1.33512E-006 |
| Excavators | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.29656E-006 | 1.29656E-006 | 0.00000E+000 | 0.00000E+000 | 1.28616E-006 |
| Forklifts | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.23491E-006 | 1.23491E-006 | 0.00000E+000 | 0.00000E+000 | 1.22500E-006 |
| Generator Sets | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.23232E-006 | 1.23232E-006 | 0.00000E+000 | 0.00000E+000 | 1.23107E-006 |
| Graders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.34907E-006 | 1.34907E-006 | 0.00000E+000 | 0.00000E+000 | 1.33825E-006 |
| Pavers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.12642E-006 | 1.12642E-006 | 0.00000E+000 | 0.00000E+000 | 1.11738E-006 |
| Paving Equipment | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.29974E-006 | 1.29974E-006 | 0.00000E+000 | 0.00000E+000 | 1.28932E-006 |
| Rollers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.00868E-006 | 1.00868E-006 | 0.00000E+000 | 0.00000E+000 | 1.00059E-006 |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.13439E-006 | 1.13439E-006 | 0.00000E+000 | 0.00000E+000 | 1.12529E-006 |
| Scrapers | 2.49190E-004 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.17617E-006 | 1.17617E-006 | 0.00000E+000 | 0.00000E+000 | 1.31257E-006 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.16973E-006 | 1.16973E-006 | 0.00000E+000 | 0.00000E+000 | 1.16035E-006 |
| Welders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.05730E-006 | 1.05730E-006 | 0.00000E+000 | 0.00000E+000 | 1.05460E-006 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | 0.00 | PM2.5 Reduction | 0.00 | | |

# Victorville-IPG Mojave 68 Project

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | 0.00 | PM2.5 Reduction | 0.00 | | |
| Yes | Water Exposed Area | PM10 Reduction | 61.00 | PM2.5 Reduction | 61.00 | Frequency (per day) | 3.00 |
| No | Unpaved Road Mitigation | Moisture Content % | 0.00 | Vehicle Speed (mph) | 20.00 | | |
| Yes | Clean Paved Road | % PM Reduction | 20.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Architectural Coating | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | Roads | 0.05 | 0.01 | 0.04 | 0.01 | 0.17 | 0.16 |
| Building Construction | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | Roads | 0.79 | 0.21 | 0.66 | 0.18 | 0.17 | 0.15 |
| Grading | Fugitive Dust | 0.27 | 0.10 | 0.11 | 0.04 | 0.61 | 0.61 |
| Grading | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.16 | 0.15 |
| Paving | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | Roads | 0.01 | 0.00 | 0.00 | 0.00 | 0.17 | 0.16 |
| Site Preparation | Fugitive Dust | 0.29 | 0.15 | 0.11 | 0.06 | 0.61 | 0.61 |
| Site Preparation | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.16 |

## Operational Percent Reduction Summary

# Victorville-IPG Mojave 68 Project

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

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 96.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 7.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.36 | 12.27 | 12.28 | 12.36 | 12.36 | 12.30 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.10 | 0.32 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |

## Victorville-IPG Mojave 68 Project

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

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |

# Victorville-IPG Mojave 68 Project

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

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| Yes | No Hearth | |
| Yes | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 10.00 |
| No | Use Low VOC Paint (Residential Exterior) | 10.00 |
| Yes | Use Low VOC Paint (Non-residential Interior) | 10.00 |
| Yes | Use Low VOC Paint (Non-residential Exterior) | 10.00 |
| Yes | Use Low VOC Paint (Parking) | 10.00 |
| No | % Electric Lawnmower | 0.00 |
| No | % Electric Leafblower | 0.00 |
| No | % Electric Chainsaw | 0.00 |

## Energy Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |

# Victorville-IPG Mojave 68 Project

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

| | | | |
|---|---|---|---|
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | 0.00 | 0.00 |
| No | Use Reclaimed Water | 0.00 | 0.00 |
| No | Use Grey Water | 0.00 | |
| Yes | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| Yes | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | 0.00 | |
| Yes | Use Water Efficient Irrigation Systems | 6.10 | |
| No | Water Efficient Landscape | 0.00 | 0.00 |

## Solid Waste Mitigation

# Victorville-IPG Mojave 68 Project

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

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

# APPENDIX B:

## TRAFFIC STUDY AND VEHICLE MILES TRAVELED (VMT) SCREENING MEMORANDUM.

DAVID EVANS
AND ASSOCIATES INC.

September 26, 2022 Job No. IPGIM68H-0001

# MEMORANDUM


To: Craig J. Wilde
**IPG Mojave 68 Holdings LLC**
991 Lomas Santa Fe Drive, Suite C PMB 469
Solana Beach, CA 92075

From: James M. Daisa, PE
Senior Transportation Project Manager

**RE: SCOPING AGREEMENT FOR FOCUSED TRAFFIC IMPACT ANALYSIS AND VEHICLE MILES TRAVELED (VMT) SCREENING FOR PROPOSED INDUSTRIAL WAREHOUSE SITE LOCATED AT THE NORTHEAST CORNER OF MOJAVE DRIVE AND MESA LINDA AVENUE IN VICTORVILLE (APNS: 3128-621-02 THRU 06)**

This memorandum presents key elements of the scope of work for the Focused Traffic Impact Analysis Report (TIA Report) evaluating the above referenced development project. This memorandum, a standard practice for the City of Victorville, presents our traffic study assumptions and methodologies to the City of Victorville for their review and approval. We estimate the proposed project's trip generation and distribute the trips to the project's site access points and proposed study intersections. This is key information the city needs to review and approve before we can proceed with the traffic study.

In addition to establishing the scope of the focused traffic study, this memorandum includes a screening assessment to determine if a VMT analysis for CEQA clearance of the project is required. The screening assessment is based on Victorville's adopted criteria for exempting development projects from having to conduct a VMT analysis.

## A. Project Description

The project site is located on the northeast corner of the intersection of Mojave Drive and Mesa Linda Avenue in the City of Victorville, as illustrated in **Exhibit A**. The proposed project is to construct an 1,097,300 square foot (SF) warehouse building with internal office space. The warehouse building will include an 877,800 SF of high-cube transload warehouse and 219,500 SF of high-cube cold storage warehouse with loading docks lining the east side and west side of the building. The proposed project is bounded to the north, east, and west by vacant/undeveloped properties, to the south by Mojave Drive and single-family residential development.

**Exhibit B** illustrates the proposed site plan. Access to the site is proposed from driveways on Mojave Drive, Onyx Road, Mesa Linda Avenue, and Cactus Road.

## B. Project Trip Generation

**Table A** summarizes the estimated trip generation of the proposed project for an average weekday, and weekday peak hours within the AM (7-9 AM) and PM (4-6 PM) peak periods. The Institute of Transportation Engineers (ITE) Trip Generation manual, 11th Edition is the source of the trip generation rates for High-Cube Transload Warehouse (Land Use Category 154) and High-Cube Cold Storage Warehouse (Land Use Category 157) trips per 1,000 square feet of gross floor area for the Peak Hour of the Adjacent Street Traffic (between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM). The split between warehouse and cold storage warehouse was identified by the developer as 80% warehouse and 20% cold storage warehouse.

## Table A: Project Trip Generation

| | Use | Gross Floor Area (KSF) | Daily | AM Peak Hour of Adjacent Street Traffic | | | PM Peak Hour of Adjacent Street Traffic | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | Total | In | Out | Total |
| 1 | **High Cube Transload Warehouse (Comprises 80% of Building)** (ITE Land Use Category 154) | 877.8 | *Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)* | | | | | | |
| | | | 1.40 | 0.06 | 0.02 | 0.08 | 0.03 | 0.07 | 0.10 |
| | | | *Total Vehicle Trip Generation* | | | | | | |
| | | | 1,229 | 55 | 16 | 71 | 25 | 63 | 88 |
| | | Mode Share | *Total Project Trip Generation by Vehicle Type* | | | | | | |
| | Passenger Cars (Percent of Total) | 79.57% | 978 | 43 | 13 | 56 | 20 | 50 | 70 |
| | 2-Axle Trucks (Percent of Total) | 3.46% | 43 | 2 | 1 | 3 | 1 | 2 | 3 |
| | 3-Axle Trucks (Percent of Total) | 4.64% | 58 | 3 | 1 | 4 | 1 | 3 | 4 |
| | 4-Axle Trucks (Percent of Total) | 12.33% | 152 | 7 | 2 | 9 | 4 | 8 | 12 |
| | | PCE Factor | *Project Trip Generation in Passenger Car Equivalents (PCE)* | | | | | | |
| | Passenger Cars) | 1 | 978 | 43 | 13 | 56 | 20 | 50 | 70 |
| | 2-Axle Trucks | 1.5 | 65 | 3 | 2 | 5 | 2 | 3 | 5 |
| | 3-Axle Trucks (Percent of Total) | 2 | 116 | 6 | 2 | 8 | 2 | 6 | 8 |
| | 4-Axle Trucks (Percent of Total) | 3 | 456 | 21 | 6 | 27 | 12 | 24 | 36 |
| | | *PCE Total* | *1,615* | *73* | *23* | 96 | *36* | *83* | 119 |
| 2 | **High Cube Cold Storage Warehouse (Comprises 20% of Building)** (ITE Land Use Category 157) | 219.5 | *Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)* | | | | | | |
| | | | 2.12 | 0.08 | 0.03 | 0.11 | 0.03 | 0.09 | 0.12 |
| | | | *Total Vehicle Trip Generation* | | | | | | |
| | | | 466 | 19 | 6 | 25 | 8 | 19 | 27 |
| | | Mode Share | *Total Project Trip Generation by Vehicle Type* | | | | | | |
| | Passenger Cars (Percent of Total) | 79.57% | 371 | 15 | 5 | 20 | 6 | 15 | 21 |
| | 2-Axle Trucks (Percent of Total) | 3.46% | 17 | 1 | 1 | 2 | 1 | 1 | 2 |
| | 3-Axle Trucks (Percent of Total) | 4.64% | 22 | 1 | 1 | 2 | 1 | 1 | 2 |
| | 4-Axle Trucks (Percent of Total) | 12.33% | 58 | 3 | 1 | 4 | 1 | 3 | 4 |
| | | PCE Factor | *Total Project Trip Generation in Passenger Car Equivalents (PCE)* | | | | | | |
| | Passenger Cars) | 1 | 371 | 15 | 5 | 20 | 6 | 15 | 21 |
| | 2-Axle Trucks | 1.5 | 26 | 2 | 2 | 4 | 2 | 2 | 4 |
| | 3-Axle Trucks (Percent of Total) | 2 | 44 | 2 | 2 | 4 | 2 | 2 | 4 |
| | 4-Axle Trucks (Percent of Total) | 3 | 174 | 9 | 3 | 12 | 3 | 9 | 12 |
| | | *PCE Total* | *615* | *28* | *12* | 40 | *13* | *28* | 41 |
| | **Combined Total Project Trips** | | | | | | | | |
| | | Mode Share | *Combined Total Project Trip Generation by Vehicle Type* | | | | | | |
| | Passenger Cars (Percent of Total) | 79.57% | 1,349 | 58 | 17 | 75 | 25 | 66 | 91 |
| | 2-Axle Trucks (Percent of Total) | 3.46% | 59 | 3 | 1 | 4 | 1 | 3 | 4 |
| | 3-Axle Trucks (Percent of Total) | 4.64% | 79 | 3 | 1 | 4 | 1 | 4 | 5 |
| | 4-Axle Trucks (Percent of Total) | 12.33% | 209 | 9 | 3 | 12 | 4 | 11 | 15 |
| | **Total Combined Project Vehicle Trips (Non-PCE)** | | **1,696** | **73** | **22** | **95** | **31** | **84** | **115** |
| | | PCE Factor | *Combined Total Project Trip Generation in PCEs* | | | | | | |
| | Passenger Cars) | 1 | 1,349 | 58 | 17 | 75 | 25 | 66 | 91 |
| | 2-Axle Trucks | 1.5 | 89 | 5 | 2 | 7 | 2 | 5 | 7 |
| | 3-Axle Trucks (Percent of Total) | 2 | 158 | 6 | 2 | 8 | 2 | 8 | 10 |
| | 4-Axle Trucks (Percent of Total) | 3 | 627 | 27 | 9 | 36 | 12 | 33 | 45 |
| | ***Total Combined Project Vehicle Trips (PCE)*** | | **2,223** | **96** | **30** | **126** | **41** | **112** | **153** |

Notes:
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = Trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition). Average rates for land use category 154 (High-Cube Transload and Short-Term Storage Warehouse) and land use category 154 (High-Cube Cold Storage Warehouse)
Source of passenger car / truck mode share (percentage of total): Fontana Truck Trip Generation Study for Heavy Warehouse Uses (August 2003).
Passenger Car Equivalents (PCE) factors: Industry standard values utilized in neighboring jurisdictions.

The source of the mode share split between passenger cars and trucks by axle is the Fontana Truck Trip Generation Study[1] for **Warehouse Uses (ITE Land Use Category 150)**. The Passenger Car Equivalent (PCE) factors are from the City of Hesperia's (a neighboring City to Victorville) Traffic Impact Analysis Report Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment dated July 2020. Passenger Car Equivalents (PCE) are provided by vehicle type and the conversion of trucks to PCEs is required by the City of Victorville for the calculation of intersection level of service.

As presented in **Table A**, the proposed project is estimated to generate 1,696 (2,223 PCE) daily trips, 95 (126 PCE) AM peak hour trips, and 115 (153 PCE) PM peak hour trips during the respective adjacent street peak hours.

**C. Project Trip Distribution and Assignment**

To address the impacts of the estimated project traffic, project trips are distributed by direction towards major commute routes, truck routes, freight haul corridors, and concentrations of residential and commercial / employment centers. Once the distribution pattern is established, project trips are assigned to the streets that provide the most direct route to destinations.

The distribution of the automobile trips (employees/visitors) is illustrated in **Exhibit C1**. The distribution of truck trips is illustrated in **Exhibit C2**. Truck trips are distributed to truck routes designated in Victorville's General Plan, the nearest of which includes Mojave Drive from I-15 to Highway 395. Highway 395, as a state highway, is also a designated truck route by the State of California. The assignment of the project's automobile trips to proposed study intersections is illustrated in **Exhibit D1**. The assignment of the project's truck trips to proposed study intersections (in passenger car equivalents) is illustrated in **Exhibit D2**. The assignment of total project trips (automobile plus trucks in passenger car equivalents) to proposed study intersections is illustrated in **Exhibit D3.**

**D. Study Intersections**

This focused traffic study evaluates project access driveways and key intersections on routes used by project traffic to access the site. This scope proposes to include four existing intersections and the four proposed driveways that accommodate most of the truck traffic as listed below:

1. Highway 395 / Mojave Drive
2. Mojave Drive / Mesa Linda Avenue
3. Mojave Drive / Onyx Road
4. Highway 395 / Cactus Road
5. Onyx Road / Project Driveway "A" (Future Intersection)
6. Onyx Road / Project Driveway "B" (Future Intersection)
7. Mesa Linda Avenue / Project Driveway "C" (Future Intersection)
8. Mesa Linda Avenue / Project Driveway "D" (Future Intersection)

The intersections of Highway 395 at Mojave Drive and at Cactus Road are currently traffic signal controlled. The intersections of Mojave Drive at Mesa Linda Avenue and Mojave Drive at Onyx Road are currently side-street stop-controlled.

Site Access

Access to the site is proposed from seven driveways: two right turn in/ right turn out only driveways on Mojave Drive, two full access driveways on Onyx Road, two full access driveways on Mesa Linda Avenue, and one full access driveway on Cactus Road. The assignment of the project's automobile trips to the project's main

[1] Fontana Truck Trip Generation Study. City of Fontana, County of San Bernardino, and the State of California. August 2003. This study collected empirical data and evaluated vehicle trip generation characteristics of several land use categories that typically generate significant volumes of truck traffic. The study collected data at numerous industrial facilities including mix of vehicles by axle. The data from this study has been integrated into ITE's Trip Generation manual.

driveways is illustrated in **Exhibit D1**. The assignment of the project's truck trips to the project's main driveways is illustrated in **Exhibit D2**[2].

**E. Level of Service Methodology**

Level of service will be calculated using the Highway Capacity Manual (HCM6) methodologies for signalized and non-signalized intersections. All study intersections will be analyzed to identify deficiencies in the city's Level of Service (LOS) policy. The capacity analysis will represent trucks in passenger car equivalents (PCE) in the existing and projected peak hour traffic volumes.

**Signal warrant analyses**. Signal warrant analyses (CA MUTCD Warrant #3 - Peak Hour) will be conducted at the non-signalized intersections of Mojave Drive study intersections (Mesa Linda Avenue and Onyx Road) if they are found to operate at LOS E or LOS F in any scenario.

**Mitigation measures**. If a study intersection is found to operate with a LOS deficiency under any "with project" scenario, improvements will be identified to accomplish the following:

- If the addition of project traffic causes the level of service to change from a LOS D or better in the "without project" condition to a LOS E or F, the improvement should return the level of service to a LOS D or better. In future conditions, the deficiency described above is a "cumulative" impact and the study will include the project's fair-share contribution to the impact (and the cost to mitigate the deficiency).
- If an intersection is operating at a deficient LOS E or F in the "without project" condition and the project adds traffic to the intersection that increases the average delay, the improvement should, at a minimum, offset the project's increase in delay. In near-term and future conditions, the deficiency described above is a "cumulative" impact and the study will include the project's fair-share contribution to the impact (and the cost to mitigate the deficiency).

**F. Traffic Study Scenarios**

Scenarios analyzed in this study are consistent with City of Victorville, San Bernardino County Congestion Management Program (CMP), and Caltrans requirements for analysis scenarios which include:

1. Existing Conditions (AM (7-9 AM) and PM (4-6 PM) peak hours)
2. Background Conditions (Year 2024)
    a. Existing + ambient growth (assuming a growth rate of 3.5% per year per city guidelines)
    b. Adjacent planned and approved (but not yet built) development
3. Background + Project Conditions (Year 2024)
    a. Background conditions as defined above + project traffic
4. Future Horizon Year 2034 Without Project Conditions
    a. Background + ambient growth (assuming a growth rate of 3.5% per year per city guidelines)
    b. Adjacent planned and approved (but not yet built) development
5. Future Horizon Year 2034 + Project
    a. Future horizon year 2034 conditions + project traffic
6. Future Year (2044) Without Project Conditions (Caltrans required 20-year projections)
    a. Derived from extrapolation of year 2040 SBTAM model projections
7. Future Year (2044) + Project Conditions

**G. Vehicle Miles Traveled (VMT) Screening**

The following is a screening assessment to determine if the project is required to conduct a VMT analysis for environmental clearance under CEQA based on criteria in the City of Victorville's Vehicle Miles Traveled (VMT) Analysis Guidelines adopted by the City in June of 2020 in conformance with SB 743.

[2] The assignment of project generated traffic to the project's main driveways is preliminary and subject to refinement during the study.

*Project Screening from Conducting VMT Analyses*

Victorville uses screening criteria to determine if a development project is required to conduct a VMT analysis. If a project satisfies the criteria described below it is considered to have a less than significant impact on VMT and does not require a VMT analysis.

Victorville has two criteria for screening projects from requiring a VMT analysis.

- The first criterion is based on the project's net daily increase in vehicle trips—if the project's net daily traffic generation is equal to or less than the city's threshold of 1,285 trips per day, it is exempt from a VMT analysis.
- The second criterion (*Project Type*) is comprised of a list of specific land uses types and a maximum size threshold in terms of dwelling units for residential projects and floor area for non-residential projects. The listed types of land uses are based on the maximum building size that would generate under 3,000 metric tons of Carbon Dioxide Equivalent (CO2e) annually—the most stringent $CO_2$ emissions standard in California. Proposed projects matching the "project type" and falling within the size thresholds are exempt from a VMT analysis.

*1. Screening for Net Increase in Daily Vehicle Trips*

As shown in **Table A**, the project's net increase in daily trips is 1,696 daily vehicle trips (non-PCE) which exceeds the threshold of 1,285 daily trips in the city's guidelines. **Based on this criterion, the project is NOT screened from requiring a VMT analysis.**

*2. Project Type Screening*

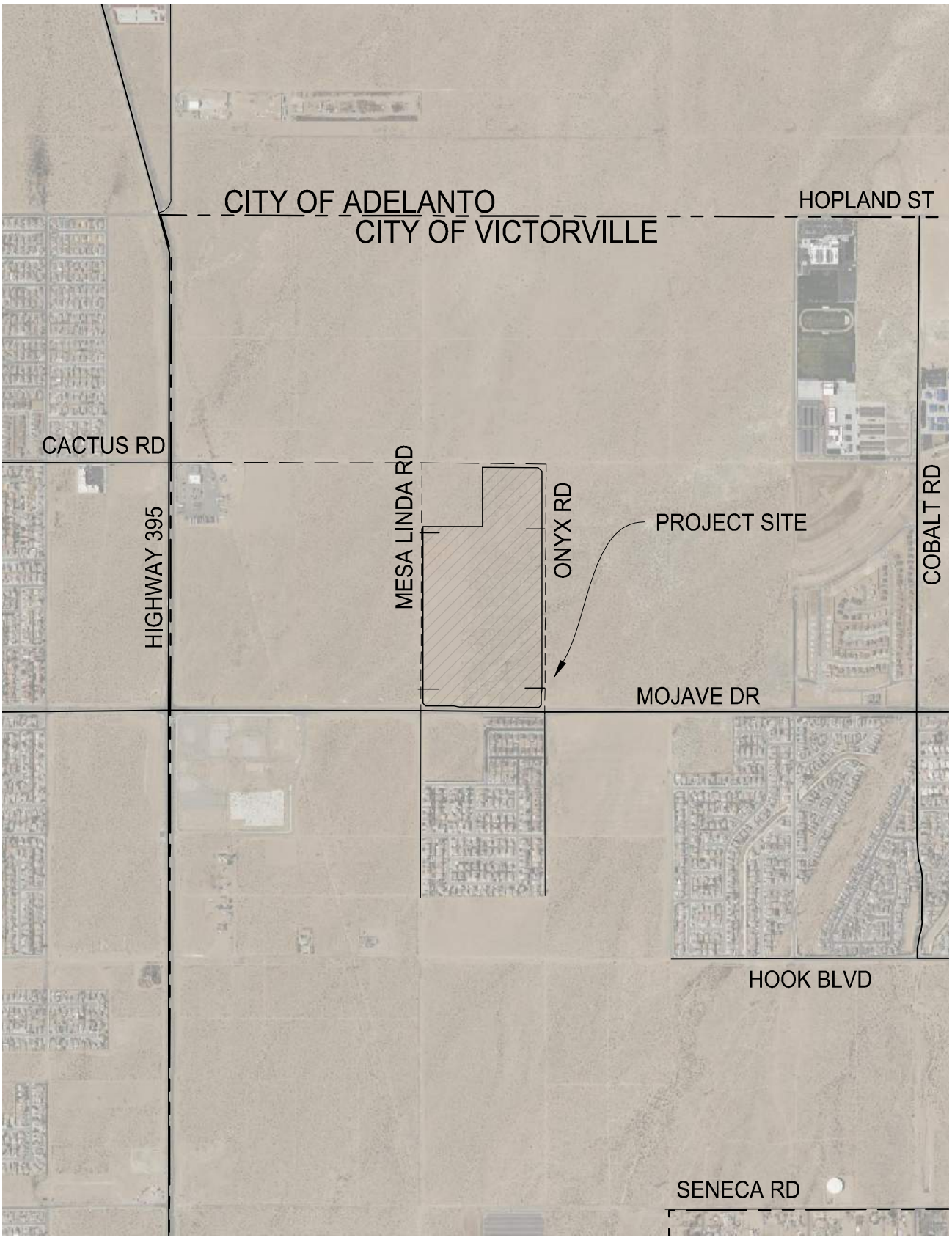
According to the City of Victorville's VMT guidelines, the following type of land uses or development with the specified maximum size are exempt from having to conduct a VMT analysis:

- Single Family or Multifamily Residential – 136 dwelling units or less
- Office — 227,000 square feet or less
- Retail — 122,000 square feet or less
- **Warehousing — 829,000 square feet or less**
- Light Industrial — 296,000 square feet or less
- K-12 Public School
- Daycare/Childcare/Pre-K
- Affordable Housing
- Student Housing
- Community Institutions, Social Services and Public Buildings

The proposed project is comprised of Warehousing with a total building floor area of 1,097,300 square feet (including internal office space) exceeds the city's warehousing size threshold of 829,000 square feet of floor area. **Based on Victorville's two criterion, the project is NOT screened from requiring a VMT analysis.**

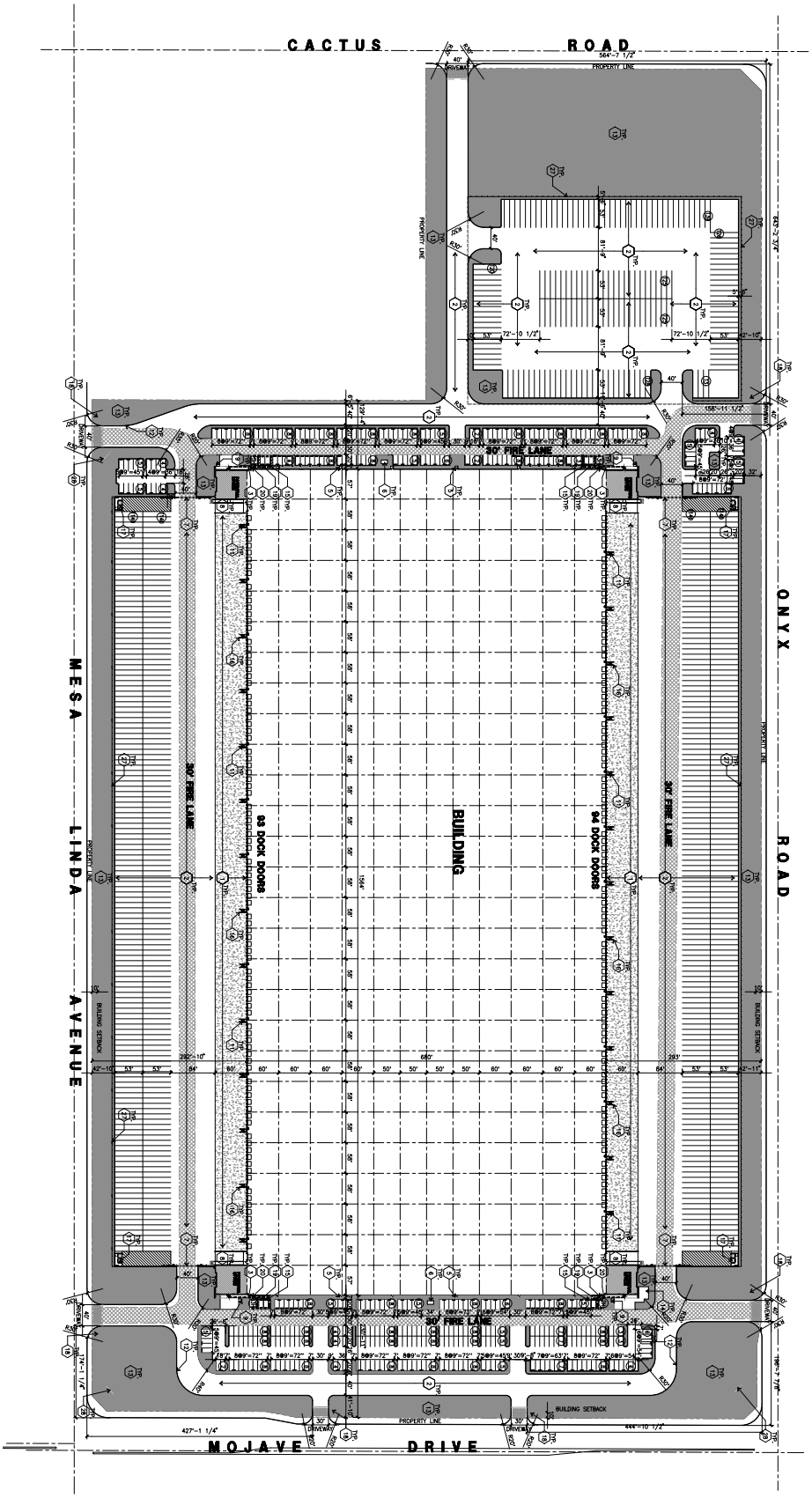
Attachments

1. Exhibit A – Vicinity Map
2. Exhibit B – Site Plan
3. Exhibit C1 – Auto Project Trip Distribution
4. Exhibit C2 – Truck Project Trip Distribution
5. Exhibit D1 – Auto Project Trips
6. Exhibit D2 – Truck PCE Project Trips
7. Exhibit D3 – Total PCE Project Trips




DAVID EVANS AND ASSOCIATES INC.

EXHIBIT A: VICINITY MAP
PROPOSED INDUSTRIAL SITE
VICTORVILLE, CALIFORNIA




N

NOT TO SCALE

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT B: SITE PLAN
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

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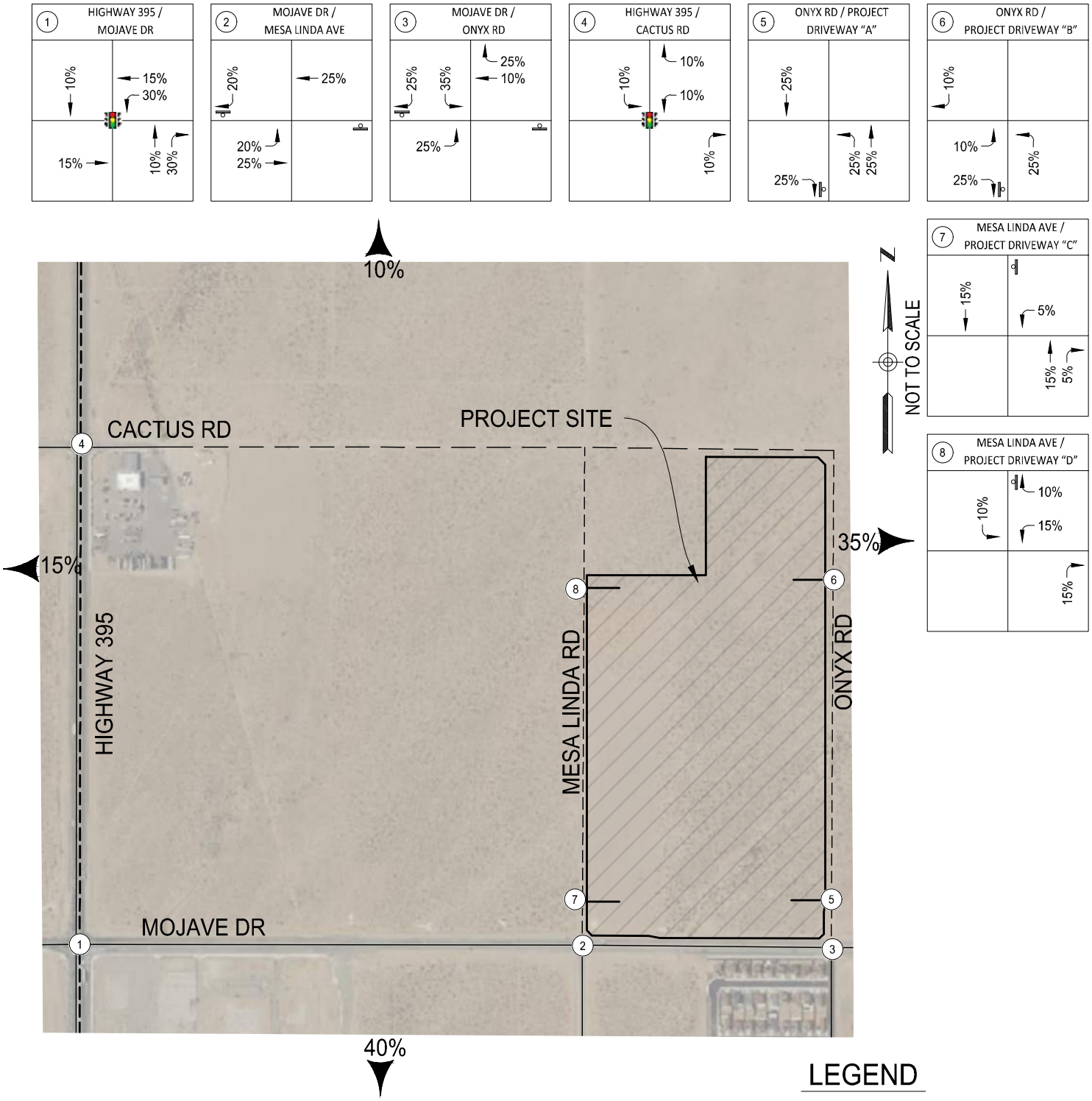


## LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT C1: PROJECT AUTOMOBILE TRIP DISTRIBUTION
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

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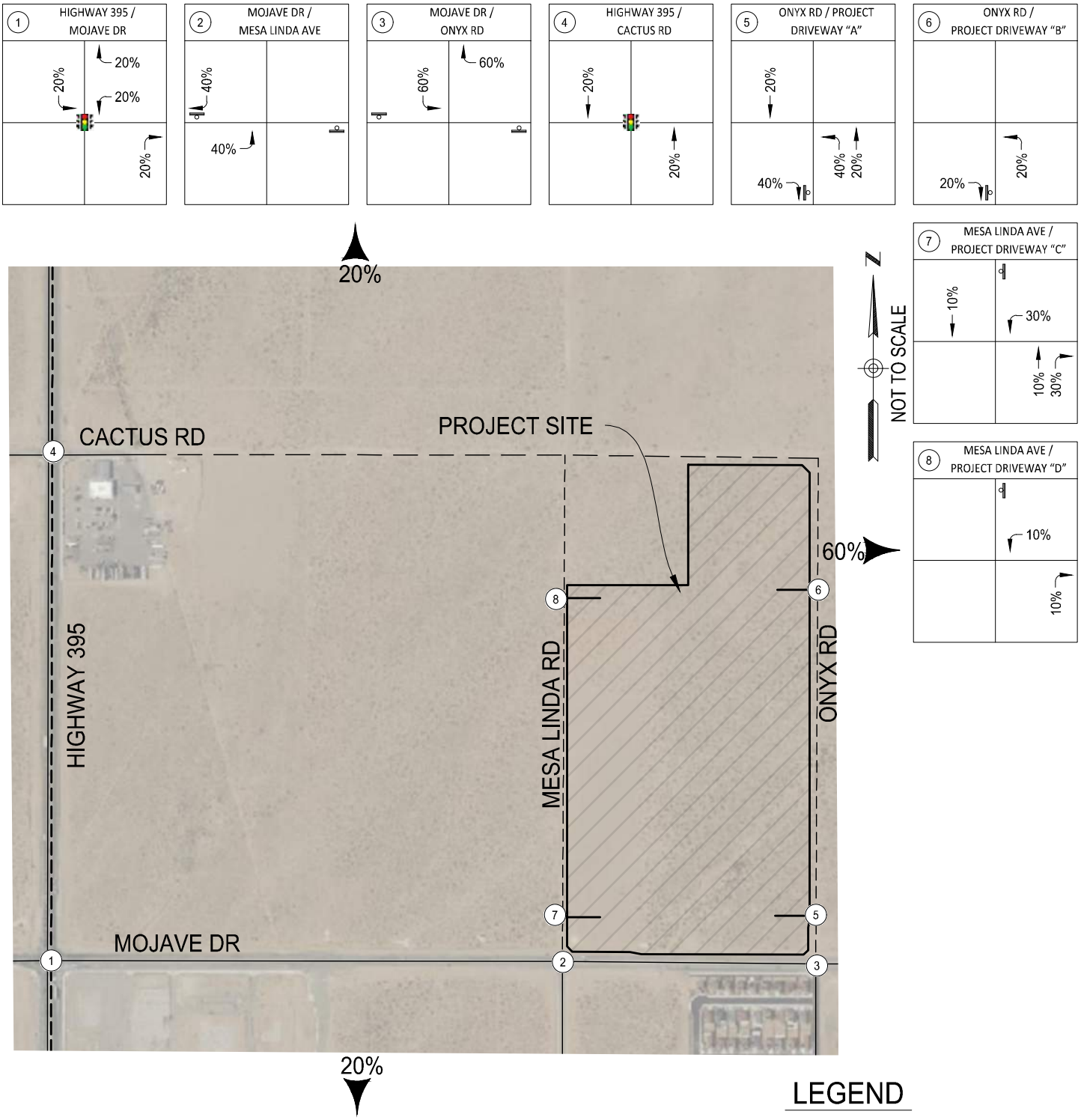


## LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT C2: PROJECT TRUCK TRIP DISTRIBUTION
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

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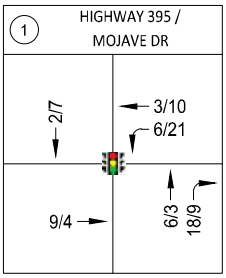


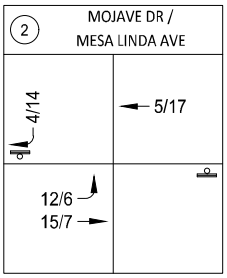


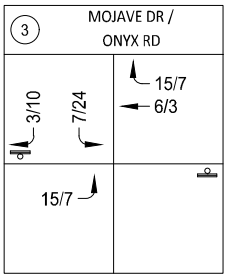


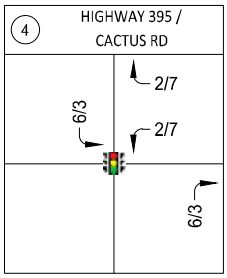


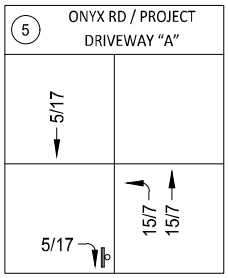


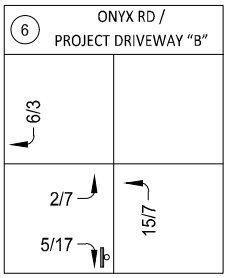


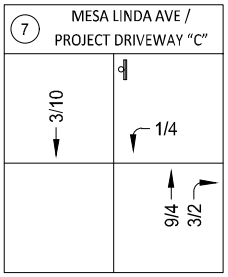


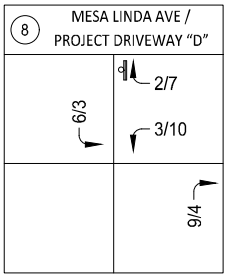


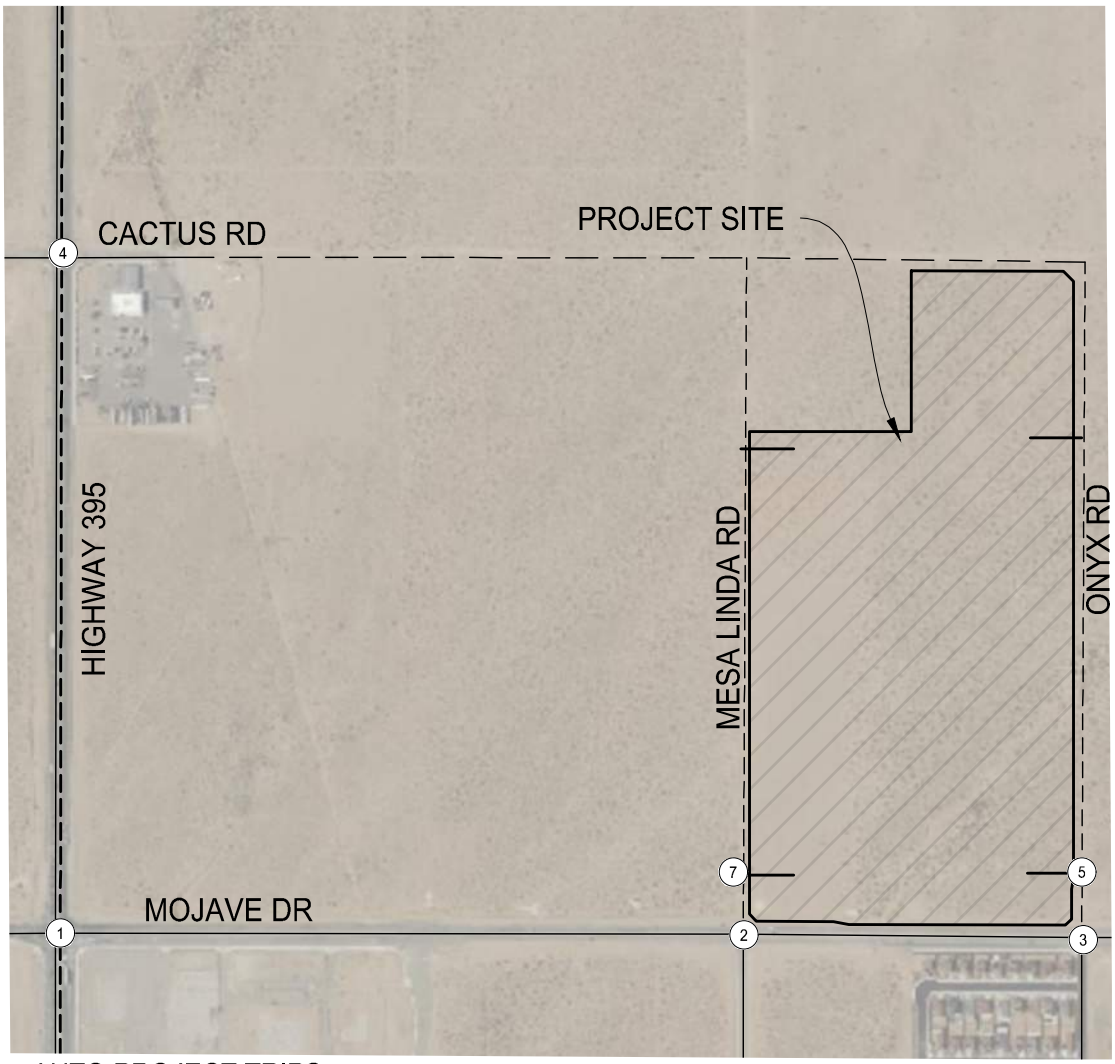


## AUTO PROJECT TRIPS

AM PEAK HOUR - 58 IN / 17 OUT
PM PEAK HOUR - 25 IN / 66 OUT

## LEGEND

XX/XX - AM/PM PROJECT TRIP
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT D1: PROJECT AUTOMOBILE TRIPS
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

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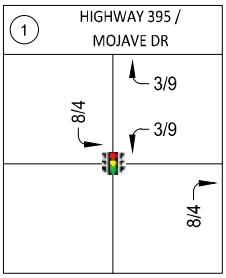


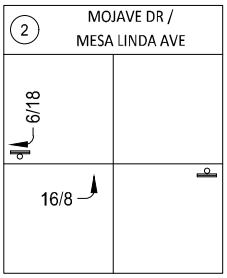


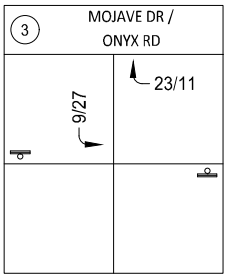


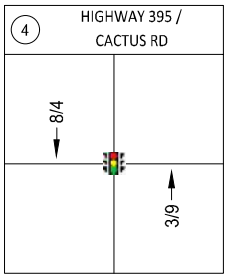


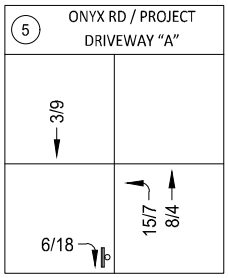


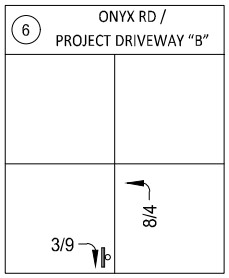


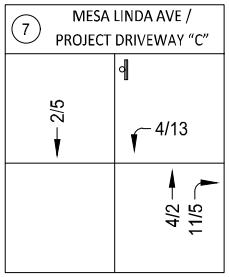


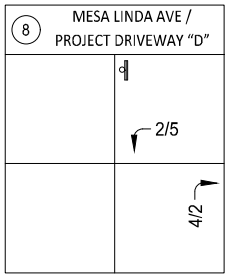


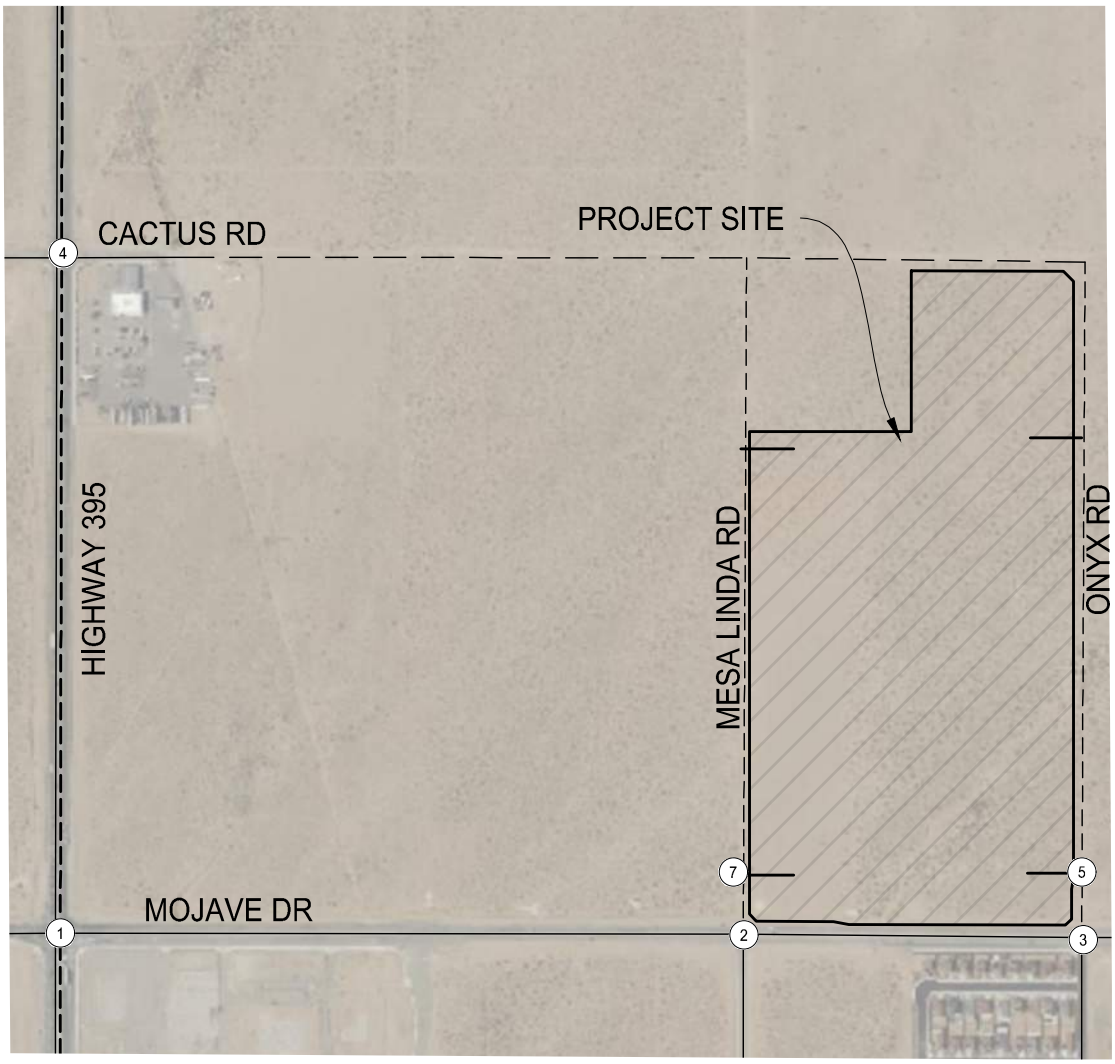


## TRUCK PROJECT TRIPS

| | | |
|---|---|---|
| AM PEAK HOUR | - | 38 IN / 13 OUT |
| PM PEAK HOUR | - | 16 IN / 46 OUT |

## LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT D2: PROJECT TRUCK TRIPS
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

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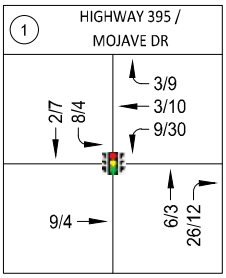


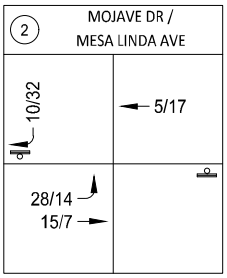


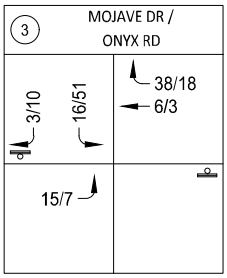


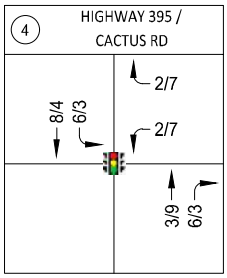


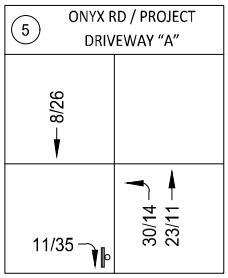


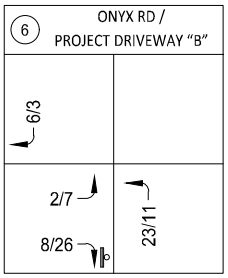


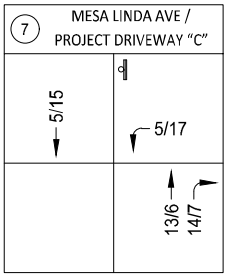


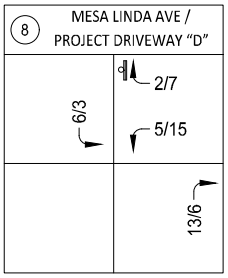


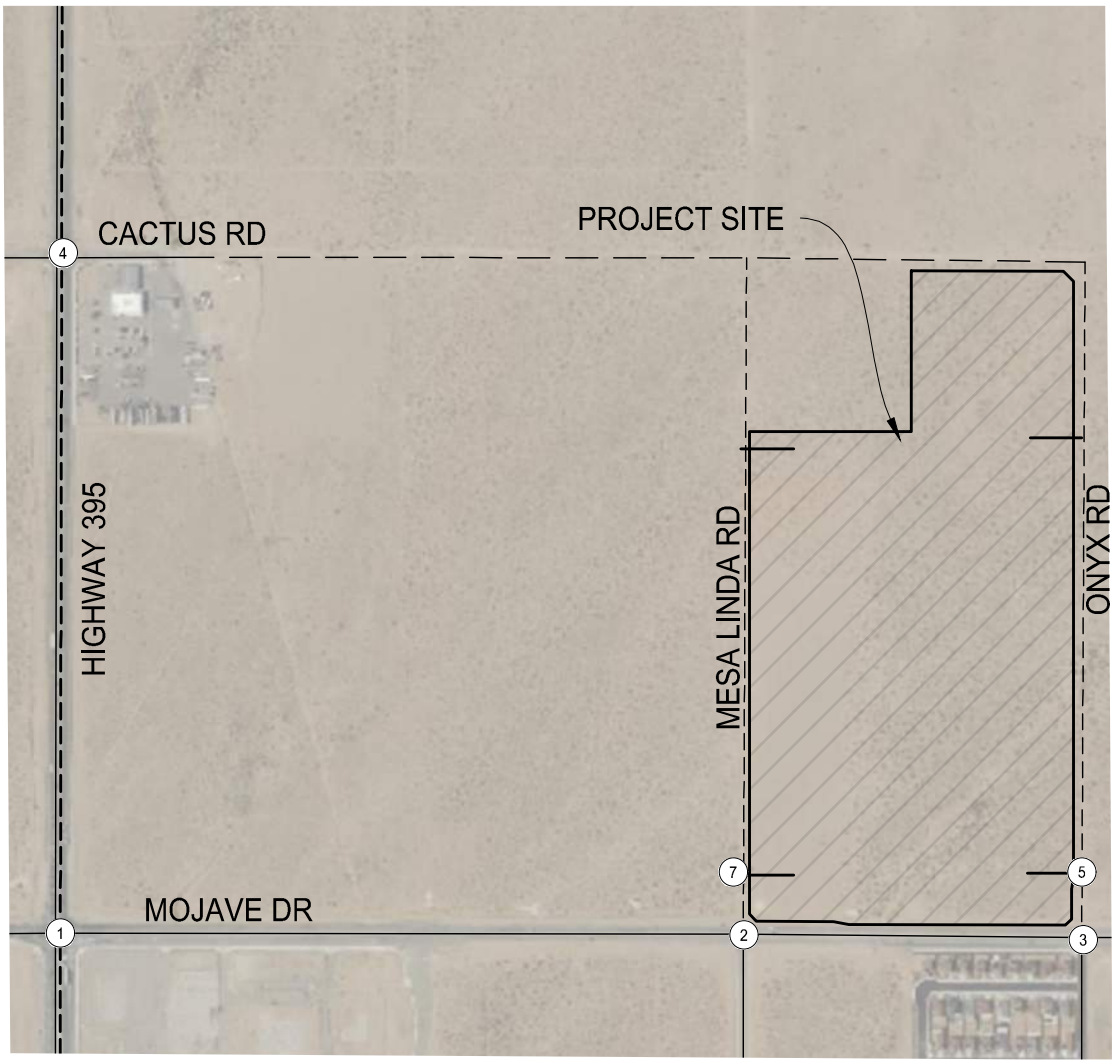


## TOTAL PROJECT TRIPS

AM PEAK HOUR - 96 IN / 30 OUT
PM PEAK HOUR - 41 IN / 112 OUT

## LEGEND

XX/XX - AM/PM PROJECT TRIP
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

# EXHIBIT D3: TOTAL PROJECT TRIPS
# PROPOSED INDUSTRIAL SITE
# VICTORVILLE, CALIFORNIA

Drawing Name: P:\IIPGIM68H0001\0400CAD\TT\EXHIBITS\ScopeExhibit.dwg
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# APPENDIX C:

# CARB EMFAC OFFROAD2021 (v1.0.3) OUTPUTS

Shareable link: https://arb.ca.gov/emfac/emissions-inventory/d748b34605a6a34673f16491d359406b2eb034dd

## Request Summary

| | |
|---|---|
| Model Output<br>OFFROAD2021 (v1.0.3) Emissions Inventory | Vehicle Classification<br>OFFROAD2021 Equipment Types |
| Region Type<br>Sub-Area | Model Year<br>Aggregate |
| Region<br>San Bernardino (MD) | Horsepower Bin<br>50 |
| Calendar Year<br>2024 | Fuel<br>Diesel |
| Scenario<br>All Adopted Rules - Exhaust | Units<br>tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours |

## Output Table

Vehicle Population and Activities: All

Activity | Population | Horsepower Hour | Fuel Consumption

Pollutants: All

NOx | PM2.5 | PM10 | CO2 | NH3 | HC | CO | ROG | TOG | SOx

| No | ROG | CO | NOx | CO2 | PM10 | PM2.5 | SOx | Fuel Consumption | Total_Activity | Total_Population | Horsepower_Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.64e-1 | 2.20e-2 | 1.37e-1 | 3.15e+1 | 3.33e-3 | 3.06e-3 | 4.95e+4 | 1.03e+6 | 1.35e+6 | 7.53e+2 | 0 |

Rows per page All 1-1 of 1

# APPENDIX D:

# Victorville CAP GHG Screening Table

## Commercial/Industrial Section

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure PS E3: Energy Efficiency For Commercial Development** | | | |
| **Building Envelope** | | | |
| Insulation | 2019 baseline (walls R-16; roof/attic R-32)<br>Modestly Enhanced Insulation (walls R-15, roof/attic R-38)<br>Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)<br>Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher) | 0 points<br>9 points<br>11 points<br>12 points | 9 |
| Windows | 2019 Baseline Windows (0.3 U-factor, 0.23 solar heat gain coefficient [SHGC)<br>Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC)<br>Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC)<br>Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC) | 0 points<br>4 points<br>4 points<br>5 points | 4 |
| Cool Roofs | 2019 Standard (none)<br>Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)<br>Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)<br>Greatly Enhanced Cool Roof ( CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance) | 0 points<br>7 points<br>7 points<br>8 points | 7 |
| Air Infiltration | Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage<br>Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent)<br>Blower Door HERS Verified Envelope Leakage or equivalent | 0 points<br>7 points<br>6 points | 13 |
| Thermal Storage of Building | Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls.<br>Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)<br>Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials) | 2 points<br>14 points | 2 |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Building Envelope Performance Standard | Projects that have not been designed to a level of detail to know the specific attributes of the building envelope can use this option in committing to one of the following performance standards<br>Modestly Enhanced Building Envelope (5% > Title 24)<br>Enhanced Building Envelope (15% > Title 24)<br>Greatly Enhanced Building Envelope (20% > Title 24) | <br><br>TBD<br>TBD<br>TBD | |
| **Indoor Space Efficiencies Commercial** | | | |
| Heating/ Cooling Distribution System | Minimum Duct Insulation (R-6 required)<br>Enhanced Duct Insulation (R-8)<br>Enhanced Duct Insulation (R-8)<br>Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent) | 0 points<br>5 points<br>5 points<br>6 points | **11** |
| Space Heating/ Cooling Equipment | 2019 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF)<br>Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF)<br>High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF)<br>Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF) | 0 points<br>4 points<br>5 points<br>7 points | **5** |
| Commercial Heat Recovery Systems | Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings | TBD<br>TBD | |
| Water Heaters | 2019 Minimum Efficiency (0.57 Energy Factor)<br>Improved Efficiency Water Heater (0.675 Energy Factor)<br>High Efficiency Water Heater (0.72 Energy Factor)<br>Very High Efficiency Water Heater (0.92 Energy Factor)<br>Solar Pre-heat System (0.2 Net Solar Fraction)<br>Enhanced Solar Pre-heat System (0.35 Net Solar Fraction) | 0 points<br>8 points<br>10 points<br>11 points<br>2 points<br>5 points | **10** |
| Daylighting | All peripheral rooms within the customer areas have at least one window<br>All rooms within the customer areas have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day<br>All rooms daylighted | 0 points<br>1 points<br>1 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Artificial Lighting | 2019 Minimum (required) | 0 points | 5 |
| | Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) | 5 points | |
| | High Efficiency Lights (50% of in-unit fixtures are high efficacy) | 7 points | |
| | Very High Efficiency Lights (100% of in-unit fixtures are high efficacy) | 8 points | |
| Appliances | Energy Star Commercial Refrigerator (new) | 2 points | |
| | Energy Star Commercial Dish Washer (new) | 2 points | |
| | Energy Star Commercial Cloths Washing Machine (new) | 2 points | |
| Indoor Space Performance Standard | Projects that have not been designed to a level of detail to know the specific attributes of the interior design of the buildings can use this option in committing to one of the following performance standards | | |
| | Modestly Enhanced Interior and appliances (5% > Title 24)<br>Enhanced Interior and appliances (15% > Title 24)<br>Greatly Enhanced Interior and appliances (20% > Title 24) | TBD<br>TBD<br>TBD | |
| **Miscellaneous Commercial/Industrial Building Efficiencies** | | | |
| Building Placement | North/South alignment of building or other building placement such that the orientation of the buildings optimizes natural heating, cooling, and lighting. | 4 points | 4 |
| Shading | At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21st. | 6 points | |
| Other | This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table.<br><br>Engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards. | TBD | |
| Existing Commercial Retrofits | The applicant may wish to provide energy efficiency retrofit projects to existing Commercial dwelling units to further the point value of their project. Retrofitting existing Commercial dwelling units within the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the Escondido Planning Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following:<br><br>Will the energy efficiency retrofit project benefit low income or disadvantaged residents?<br><br>Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E3? | | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| | Does the energy efficiency retrofit project provide co-benefits important to the City?<br><br>Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project. | TBD | |
| **Reduction Measure PS E2: New Commercial/Industrial Renewable Energy** | | | |
| Photovoltaic | Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:<br>30 percent of the power needs of the project<br>40 percent of the power needs of the project<br>50 percent of the power needs of the project<br>60 percent of the power needs of the project<br>70 percent of the power needs of the project<br>80 percent of the power needs of the project<br>90 percent of the power needs of the project<br>100 percent of the power needs of the project | 8 points<br>12 points<br>16 points<br>19 points<br>23 points<br>26 points<br>30 points<br>34 points | **8** |
| Wind turbines | Some areas of the City lend themselves to wind turbine applications. Analysis of the area's capability to support wind turbines should be evaluated prior to choosing this feature.<br><br>Individual wind turbines at homes or collective neighborhood arrangements of wind turbines such that the total power provided augments:<br>30 percent of the power needs of the project<br>40 percent of the power needs of the project<br>50 percent of the power needs of the project<br>60 percent of the power needs of the project<br>70 percent of the power needs of the project<br>80 percent of the power needs of the project<br>90 percent of the power needs of the project<br>100 percent of the power needs of the project | 8 points<br>12 points<br>16 points<br>19 points<br>23 points<br>26 points<br>30 points<br>34 points | |
| Off-site renewable energy project | The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing Commercial that will help implement R2 E4, or existing commercial/industrial that will help implement R2 E7. These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate.<br><br>Point values will be determined based upon the energy generated by the proposal. | TBD | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Other Renewable Energy Generation | The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity. | TBD | |
| **Reduction Measure PS W2: Water Use Reduction Initiative** | | | |
| **Irrigation and Landscaping** | | | |
| Water Efficient Landscaping | Eliminate conventional turf from landscaping<br>Only moderate water using plants<br>Only low water using plants<br>Only California Native landscape that requires no or only supplemental irrigation | 0 points<br>2 points<br>3 points<br>5 points | 5 |
| Water Efficient Irrigation Systems | Low precipitation spray heads< .75”/hr. or drip irrigation<br>Weather based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use) | 1 point<br>3 points | 3 |
| Recycled Water | Recycled water connection (purple pipe) to irrigation system on site | 5 points | |
| Trees | Increase tree planting in parking areas 50% beyond City Code requirements | TBD | |
| Storm water Reuse Systems | Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project.<br>Point values for these types of systems will be determined based upon design and engineering data documenting the water savings. | TBD | |
| **Potable Water Commercial** | | | |
| Showers | Water Efficient Showerheads (2.0 gpm) | 2 points | |
| Toilets | Water Efficient Toilets/Urinals (1.5gpm)<br>Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points) | 3 points<br>3 points | 6 |
| Faucets | Water Efficient faucets (1.28gpm) | 2 points | 2 |
| Commercial Dishwashers | Water Efficient dishwashers (20% water savings) | 2 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| Commercial Laundry Washers | EPA Water Efficient laundry (15% water savings)<br>EPA High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings) | 2 points<br>4 points | |
| Commercial Water Operations Program | Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water.<br>Point values for these types of plans will be determined based upon design and engineering data documenting the water savings. | TBD | |
| Potable Water Performance Standard | Projects that have not been designed to a level of detail to know the specific attributes design can use this in committing to a potable water efficiency | TBD | |
| **Reduction Measure: Land Use Based Trips and VMT Reduction** | | | |
| Mixed Use Commercial | Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon a Transportation Impact Analysis (TIA) demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges:<br>Mixes of land uses that complement one another in a way that reduces the need for vehicle, determined based upon a Transportation Impact Analysis *(2-28 points)*<br>Increased destination accessibility other than transit *(1-18 points)*<br>Increased transit accessibility (*1-28 points)*<br>Infill location that reduces vehicle trips or VMT beyond the specified measures | TBD<br>TBD<br>TBD<br>TBD<br>TBD | |
| Local Retail Near Residential (Commercial only Projects) | Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled.<br>The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.<br>Preferential parking<br>Synchronize signals<br>Connect signals to existing ITS | TBD<br>1 point<br>1 point<br>3 points | |
| **Reduction Measure: Bicycle Master Plan Development** | | | |
| Bicycle Infrastructure | Provide bicycle paths within project boundaries.<br>Provide bicycle path linkages between residential and other land uses.<br>Provide bicycle path linkages between residential and transit. | 1 point<br>2 points<br>5 points | |

| Feature | Description | Assigned Point Values | Project Points |
|---|---|---|---|
| **Reduction Measure: Electric Vehicle Infrastructure** | | | |
| Cars | Level 2 240 volt AC Fast Chargers | 5 points | 13 |
| | Level 3 480 volt DC Rapid Chargers | 8 points | |
| Trucks | **Medium & Heavy Duty Electric Truck Chargers** | | |
| | Level 1 AC Chargers for EV Medium Duty Truck | 3 points | |
| | Level 1 AC Chargers for EV Class 8 (Heavy Duty) Truck | 5 points | |
| | Level 2 AC Chargers for EV Medium Duty Truck | 8 points | |
| | Level 2 AC Chargers for EV Class 8 (Heavy Duty) Truck | 12 points | |
| | Level 3 DC Chargers for EV Class 8 (Heavy Duty) Truck | 16 points | |
| **Total Points from Commercial/Industrial Project:** | | | 107 |

**-Commercial/Industrial Section Ends-**