# APPENDIX F

## GREENHOUSE GAS ANALYSIS

# Gateway South Building 4

## GREENHOUSE GAS ANALYSIS

## CITY OF SAN BERNARDINO

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| | |
|---|---|
| (1) | Reference |
| ARB | California Air Resources Board |
| AQIA | Air Quality Impact Analysis |
| CAA | Federal Clean Air Act |
| CalEEMod | California Emissions Estimator Model |
| CalEPA | California Environmental Protection Agency |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resource Board |
| CAT | Climate Action Team |
| CBSC | California Building Standards Commission |
| CEC | California Energy Commission |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CFC | Chlorofluorocarbons |
| CFR | Code of Federal Regulations |
| CH4 | Methane |
| CO | Carbon Monoxide |
| CO2 | Carbon Dioxide |
| CO2e | Carbon Dioxide Equivalent |
| CPUC | California Public Utilities Commission |
| EPA | Environmental Protection Agency |
| EPS | Emission Performance Standard |
| GCC | Global Climate Change |
| GHGA | Greenhouse Gas Analysis |
| GWP | Global Warming Potential |
| HFC | Hydrofluorocarbons |
| LCA | Life-Cycle Analysis |
| MMs | Mitigation Measures |
| MMTCO2e | Million Metric Ton of Carbon Dioxide Equivalent |
| MTCO2e | Metric Ton of Carbon Dioxide Equivalent |
| N20 | Nitrogen Dioxide |
| NIOSH | National Institute for Occupational Safety and Health |
| NOx | Oxides of Nitrogen |
| PFC | Perfluorocarbons |
| PM10 | Particulate Matter 10 microns in diameter or less |
| PM2.5 | Particulate Matter 2.5 microns in diameter or less |

| | |
|---|---|
| PPM | Parts Per Million |
| Project | Gateway South Building 4 |
| RTP | Regional Transportation Plan |
| SB | Senate Bill |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| UNFCCC | United Nations' Framework Convention on Climate Change |
| VOC | Volatile Organic Compounds |

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# EXECUTIVE SUMMARY

The City of San Bernardino does not have an adopted threshold of significance for GHG emissions. For CEQA purposes, the City has discretion to select an appropriate significance criterion, based on substantial evidence. The AQMD's adopted numerical threshold of 10,000 MTCO2e per year for industrial stationary source emissions is selected as the significance criterion. The AQMD-adopted industrial threshold was selected by the City because the proposed Project is analogous to an industrial use much more closely than any other land use such as commercial or residential in terms of its expected operating characteristics. The Project proposes large buildings with loading bays and fenced truck courts that are expected to house businesses that serve mid- stream functions in the goods movement chain between manufacturers and consumers, characteristic of an industrial operation. Further, analysis of the Project's traffic generation in this EIR is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition, 2012 for industrial and warehouse uses. Also, 10,000 MTCO2e has been used as the significance threshold by many local government lead agencies for logistics projects throughout the SCAG region since the AQMD adopted this threshold for its own use. Further, to ensure that the threshold is conservative in its application, although the AQMD uses their adopted 10,000 MTCO2e threshold to determine the significance of stationary source emissions for industrial projects, the 10,000 MTCO2e threshold used in this EIR is applied to all sources of Project-related GHG emissions whether stationary source, mobile source, area source, or other.

Use of this threshold is also consistent with guidance provided in the CAPCOA *CEQA and Climate Change* handbook, as such the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 10,000 metric tons carbon dioxide equivalent (MTCO2E) per year for industrial projects. This threshold is based on the review of 711 CEQA projects.

The Project will result in approximately 2,715.50 MTCO2e per year from construction, area, energy, waste, water usage, and on-site equipment. In addition, the Project has the potential to result in an additional 15,799.83 MTCO2e per year from mobile sources if the assumption is made that all of the vehicle trips to and from the Project are "new" trips resulting from the development of the Project. As shown in Table ES-1, the Project has the potential to generate a total of approximately 18,515.33 MTCO2e per year. As such, the Project would exceed the SCAQMD's numeric threshold of 10,000 MTCO2e if it were applied. Thus, the Project has the potential to result in a cumulatively considerable impact with respect to GHG emissions.

**TABLE ES-1: TOTAL PROJECT GHG EMISSIONS (ANNUAL)**

| Emission Source | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | **$CO_2$** | **$CH_4$** | **$N_2O$** | **Total $CO_2E$** |
| Annual construction-related emissions amortized over 30 years | 66.23 | 0.01 | -- | 66.38 |
| Area | 0.08 | 2.30E-04 | 0.00 | 0.09 |
| Energy | 866.22 | 0.05 | 0.01 | 870.69 |
| Mobile Sources (Trucks) | 13,796.06 | 0.51 | 0.00 | 13,808.78 |
| Mobile Sources (Passenger Cars) | 1,989.84 | 0.05 | 0.00 | 1,991.05 |
| On-Site | 210.67 | 0.07 | 0.00 | 212.31 |
| Waste | 203.19 | 12.01 | 0.00 | 503.40 |
| Water Usage | 801.91 | 8.07 | 0.20 | 1,062.63 |
| **Total $CO_2E$ (All Sources)** | **18,515.33** | | | |

Source: CalEEMod™ model output, See Appendix 3.1 for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.

Table results include scientific notation. *e* is used to represent *times ten raised to the power of* (which would be written as x $10^{b}$") and is followed by the value of the exponent

# 1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Gateway South Building 4 ("Project"). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed Project.

## 1.1 SITE LOCATION

The proposed Gateway South Building 4 site is generally located south of Dumas Street and west of Waterman Avenue in the City of San Bernardino, as shown on Exhibit 1-A.

## 1.2 STUDY AREA

The Project site is currently occupied by the San Bernardino Public Golf Course. Existing structures on-site totaling approximately 17,575 square feet (s.f) will be demolished prior to building construction. The Project site is bordered by the San Bernardino County Flood Control Channel to the west, a golf driving range that is the site of a future industrial warehouse building to the north, various office industrial land uses to the east, and the Santa Ana River to the south.

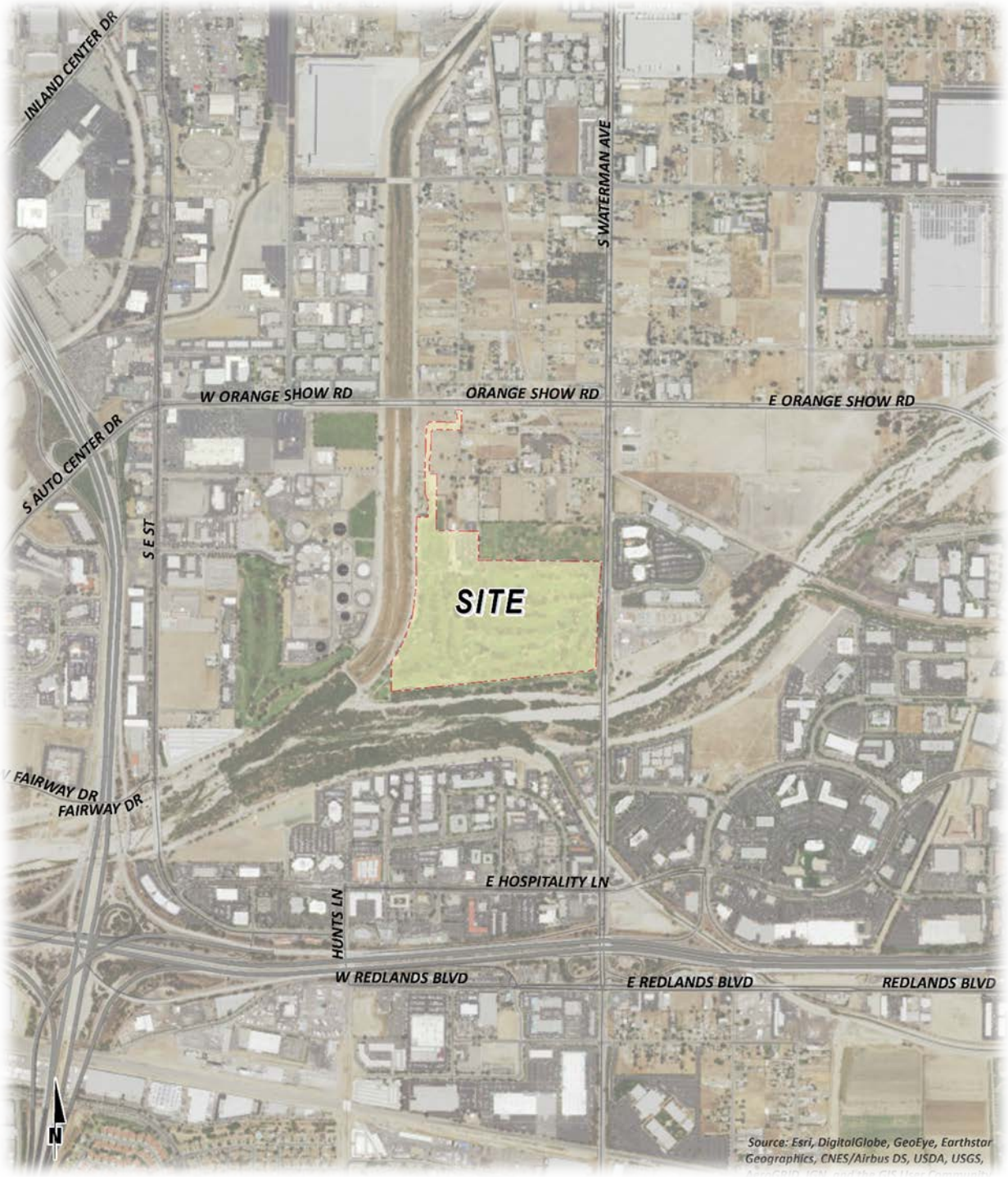
## 1.3 PROJECT DESCRIPTION

The Project is proposed to consist of a total of 1,063,853 square feet (sf) of high-cube warehouse/distribution center use (as a conservative measure, the analysis herein evaluates 1,064,880 sf of high-cube warehouse/distribution center use; therefore, the impacts disclosed herein are slightly overstated), as shown on Exhibit 1-B. For the purposes of this GHGA, the Project is anticipated to be developed in a single phase with an anticipated opening year of 2018.

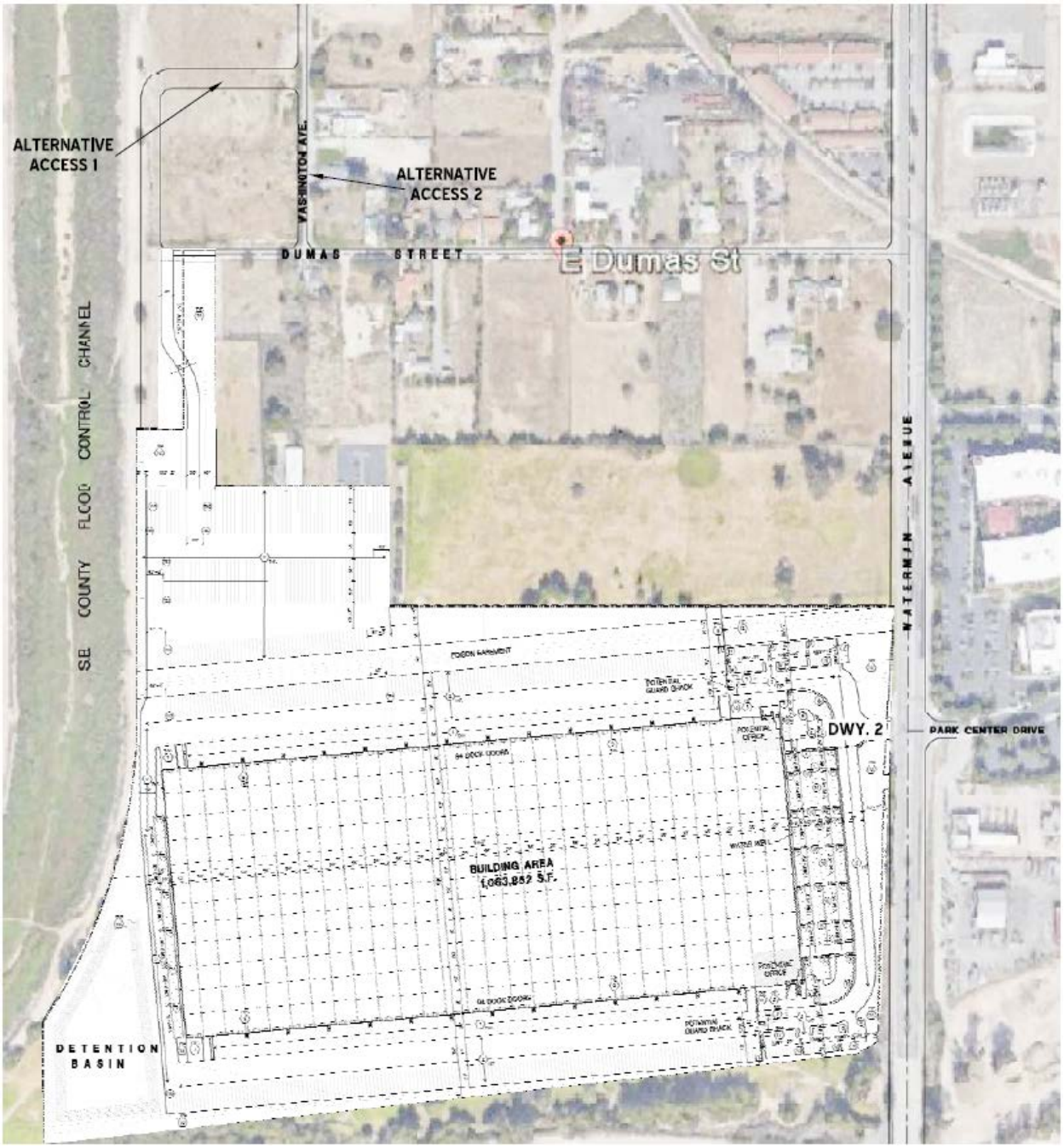
The Project also provides for a proposed off-site private street access easement extending from the Project site's northern boundary. The easement would extend to Dumas Street, then north and east to existing Washington Avenue, then north to intersect with Orange Show Road. Interim roadway improvements would occur within this easement to provide ingress and egress between the Project site and Orange Show Road.

As part of the Project's design, all on-site outdoor cargo handling equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) will be powered by non-diesel fueled engines (e.g., electric or natural gas) and all on-site indoor forklifts shall be electric.

## EXHIBIT 1-A: LOCATION MAP



## EXHIBIT 1-B: SITE PLAN



## 1.4 REGULATORY REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of greenhouse gas emissions include:

- Global Warming Solutions Act of 2006 (AB32) (1). AB 32 is applicable to the Project because, as a development Project, the 17110-17120 Main Street Project will need to meet 2020 GHG reduction goals set forth in AB 32. AB 32 requires the California Air Resources Board (CARB or ARB) to develop regulations and market mechanisms to reduce California's greenhouse gas emissions to 1990 levels by the year of 2020. Many of the GHG reduction measures outlined in AB 32 (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles (2). AB 1493 (Pavley) establishes fuel efficiency rating for model year 2009-2016 passenger cars and light trucks. AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to and from the Project site are required by the State of California to implement GHG emission reduction standards related to fuel efficiency. The CARB anticipates that implementation of the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 30 percent in 2016 compared to emissions that occurred prior to 2009 when AB 1492 was enacted.
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction (3). The Title 24 energy standards address the energy efficiency of new (and altered) homes and commercial buildings. Because energy efficiency reduces energy costs, increases reliability and availability of electricity, improves building occupant comfort, and reduces impacts to the environment, standards are important and necessary for California's energy future. Therefore, a new development such as the 17110-17120 Main Street Project is required to comply with Title 24 Code of Regulations and would therefore increase the Project's energy efficiency and reduce its environmental impact.
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020 (4). Because the LCFS applies to any transportation fuel that is sold, supplied, or offered for sale in California, and to any person who, as a regulated party, is responsible for a transportation fuel in a calendar year, all vehicles accessing the site will be required to comply with LCFS. Implementation of such a standard will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel pool used in California.
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (5). As new development project within the State of California, the 17110-17120 Main Street Project is required to comply with the City of San Bernardino's adopted water efficient landscape requirements and would therefore be consistent with the requirements of AB1881 in order to help conserve California's water resources and to promote efficient water use.

## 1.5 CONSTRUCTION-SOURCE AIR POLLUTANT EMISSIONS MITIGATION MEASURES

The Project Air Quality Impact Analysis (AQIA) establishes construction activity mitigation measures that would globally reduce air pollutant emissions generated by subsequent development proposals within the Project site. Although these measures could act to reduce GHG emissions, there is insufficient data to support any reductions associated with the construction activity mitigation measures identified in the AQIA. Thus, as a conservative measure no reduction in GHG emissions are taken for construction activity mitigation measures identified in the AQIA.

## 1.6 OPERATIONAL-SOURCE MITIGATION MEASURES

Measures listed below would provide for generalized reductions in Project operational greenhouse gas emissions. Notwithstanding, these reductions cannot be definitively quantified; and in any case, such reductions as may be realized would not materially affect the analyses or conclusions presented herein. For the purposes of this analysis, unmitigated and mitigated area-source air pollutant emissions generated by the Project are considered substantively equal. As a conservative measure, no reduction for any of the measures listed under MM AQ-2 through MM AQ-5 is taken in the analysis.

**MM AQ-2**

- Up to three electric-vehicle charging stations will be provided.
- Solar or light-emitting diodes (LEDs) lights shall be installed for outdoor lighting.
- Any yard trucks used on-site to move trailers in or around the loading areas shall be electric or natural gas.
- Service equipment, such as forklifts, used at the Project site shall be electric.
- Applicant shall provide bicycle racks in convenient locations to facilitate bicycle access to the Project site.
- Applicant shall use low-VOC emission paints consistent with SCAQMD standards.
- Applicant must design and construct the roof of the buildings to accommodate maximally sized photovoltaic (PV) solar arrays taking into consideration limitations imposed by other rooftop equipment, roof warranties, building and fire code requirements, and other physical or legal limitations. Applicant must develop each Project building with the necessary electrical system and other infrastructure to accommodate maximally sized PV arrays in the future. The electrical system and infrastructure must be clearly labeled with noticeable and permanent signage which informs future tenant/purchasers of the existence of this infrastructure.
- Applicant shall design and construct the Project to achieve the equivalent of an LEED™ "Certified" rating under the current U.S. Green Building Council standards, and will be built in compliance with those standards. To achieve this, the design, construction, and operation of the proposed Project shall incorporate a series of green building strategies, which shall be selected and implemented in the sole discretion of the Applicant. Upon completion of the Project, Applicant shall provide the City with documentation demonstrating that the Project has achieved LEED Certified equivalency. The Project shall not be required to obtain USGBC certification.

**MM AQ-3:**

Prior to the issuance of building permits, the Project applicant shall ensure that the Project is designed to achieve efficiency equal to or exceeding then incumbent (2016 or later) California Building Code Title 24 requirements.

**MM AQ-4:**

To reduce water consumption and the associated energy-usage, the Project will be designed to comply with the mandatory reductions in indoor water usage contained in the incumbent CalGreen Code (6) and any mandated reduction in outdoor water usage contained in the City's water efficient landscape requirements. Additionally, the Project shall implement the following:

- Landscaping palette emphasizing drought tolerant plants;
- Use of water-efficient irrigation techniques;
- U.S. EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.

**MM AQ-5:**

The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:

**a)** Truck drivers shall turn off engines when not in use;

**b)** Truck drivers shall shut down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged (7). [1]; and

**c)** Telephone numbers of the building facilities manager and the CARB to report violations.

[1] While restricted idling is required per MM AQ-1, the analysis presented here takes no quantified credit or reduction in emissions for restricted idling, and reflects an assumed 15-minute "worst case" idling condition.

# 2 CLIMATE CHANGE SETTING

## 2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough greenhouse gas emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

## 2.2 GREENHOUSE GAS EMISSIONS INVENTORIES

*Global*

Worldwide anthropogenic (man-made) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions data for Annex I nations are available through 2012. For the Year 2012 the sum of these emissions totaled approximately 28,865,994 Gg CO2e[1] (8). The GHG emissions in more recent years may differ from the inventories presented in Table 2-1; however, the data is representative of currently available inventory data.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF,"

*United States*

As noted in Table 2-1, the United States, as a single country, was the number two producer of GHG emissions in 2012. The primary greenhouse gas emitted by human activities in the United States was CO2, representing approximately 80.9 percent of total greenhouse gas emissions (9). Carbon dioxide from fossil fuel combustion is the largest source of US greenhouse gas emissions.

**TABLE 2-1: TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION** [2]

| Emitting Countries | GHG Emissions (Gg CO2e) |
|---|---|
| China | 10,975,500 |
| United States | 6,665,700 |
| European Union (28 member countries) | 4,544,224 |
| India | 3,013,770 |
| Russian Federation | 2,322,220 |
| Japan | 1,344,580 |
| **Total** | **28,865,994** |

*State of California*

CARB compiles GHG inventories for the State of California. CARB GHG inventory data indicates that in 2014 (the most recent inventory of record) California GHG emissions totaled approximately 441.5 Million Metric Tons of Carbon Dioxide Equivalent (MMTCO2e) (10). "In 2010, California accounted for 6.8 percent of all emissions in the country [United States], and ranked second highest among the states with total emissions of 453 MMTCO2e, only behind Texas with 763 MMTCO2e. From a per capita standpoint, California has the 45th lowest emissions with 12.1 MMTCO2e /person in 2010."[3]

## 2.3 GLOBAL CLIMATE CHANGE DEFINED

Global Climate Change (GCC) refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO2 (Carbon Dioxide), N2O (Nitrous Oxide), CH4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the California Air Resources Board (CARB), the

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in http://www.wri.org site to reference Non-Annex I countries such as China and India.

3 California Environmental Protection Agency. Air Resources Board. California's Greenhouse Gas Emission Inventory - 2014 Edition (May 2014), p. 28.

climate change since the industrial revolution differs from previous climate changes in both rate and magnitude (11).

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than today's current condition. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent (CO2e) greenhouse gas emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls (12).

## 2.4 GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well-defined and no accepted emissions factors or methodology exist to accurately calculate these gases.

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized at Table 2-2. As shown in the table below, GWP for the SAR range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride and GWP for the AR4 range from 1 for carbon dioxide to 22,800 for sulfur hexafluoride.

**TABLE 2-2: GLOBAL WARMING POTENTIAL AND ATMOSPHERIC LIFETIME OF SELECT GHGS**

| Gas | Atmospheric Lifetime (years) | Global Warming Potential (100 year time horizon) | |
|---|---|---|---|
| | | Second Assessment Report (SAR) | 4th Assessment Report (AR4) |
| Carbon Dioxide | 50-200 | 1 | 1 |
| Methane | 12 ± 3 | 21 | 25 |
| Nitrous Oxide | 120 | 310 | 298 |
| HFC-23 | 264 | 11,700 | 14,800 |
| HFC-134a | 14.6 | 1,300 | 1,430 |
| HFC-152a | 1.5 | 140 | 124 |
| Sulfur Hexafluoride (SF6) | 3,200 | 23,900 | 22,800 |

Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

Water Vapor: Water vapor (H20) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide: Carbon dioxide (CO2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (13).

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (14).

Methane: Methane (CH4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide: Nitrous oxide (N2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (15).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C2H6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health

effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF3), HFC-134a (CF3CH2F), and HFC-152a (CH3CHF2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt (16). No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF4) and hexafluoroethane (C2F6). The U.S. EPA estimates that concentrations of CF4 in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride: Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (22,800). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

## 2.5 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

*Public Health*

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range (3-5.5°F) to 75 to 85 percent under the medium warming range (5.5-8°F). In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario (8-10.5°F), there could be up to 100 more days per year with temperatures above 90oF in Los Angeles and 95oF in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

*Water Resources*

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

*Agriculture*

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

*Forests and Landscapes*

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

*Rising Sea Levels*

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and

inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

## 2.6 HUMAN HEALTH EFFECTS

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (17). Exhibit 2-A presents the potential impacts of global warming.

Water Vapor: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Carbon Dioxide: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (18).

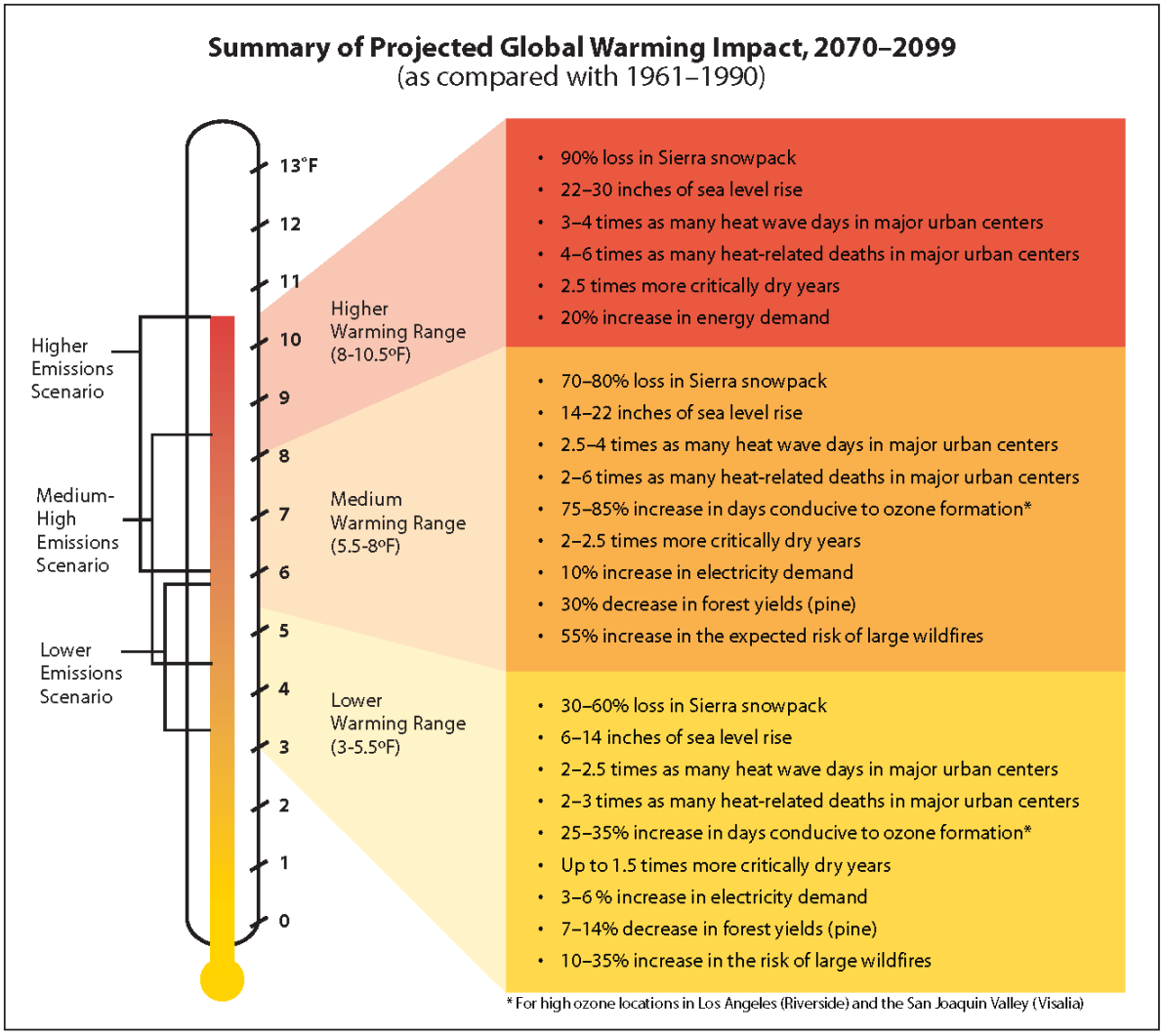
Specific health effects associated with directly emitted GHG emissions are as follows:

Methane: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (19).

Nitrous Oxide: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (19).

Fluorinated Gases: High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (18).

**EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT**




Aerosols: The health effects of aerosols are similar to that of other fine particulate matter. Thus aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality (20).

## 2.7 REGULATORY SETTING

International Regulation and the Kyoto Protocol:

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs for member nations to adopt.

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated five percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto.

Climate Action Plan

On June 25, 2013, President Obama announced the Climate Action Plan, a national plan for tackling climate change. This marked a historic turning point, as the President used his executive authority to push forward a climate change agenda. The plan, divided in to three sections, outlines the steps to cut carbon pollution in the United States, including standards for both new and existing power plants, action to prepare the US for the impacts of climate change, and plans to lead international efforts to address global climate change (21).

2015 United Nations Paris Climate Change Conference

On December 12, 2015, which marks the 11th meeting of the Parties to the Kyoto Protocol, 195 nations, including the United States and China, agreed upon a strategy for combatting global climate change to be in effect in 2020. This historic meeting, known as the 21st annual Conference of the Parties (COP21), focused on five key elements: mitigation, a transparency system and global stock-take, adaptation, loss and damage, and support.

In mitigating global climate change, COP 21 participating nations agreed upon a universal long-term goal of keeping the global temperature to well below 2°C or 3.6°F well above pre-industrial levels. The agreement also encouraged participating nations to limit temperature increases even further to 1.5°C or 2.7°F above pre-industrial levels. In addition to that, nations agreed to peak their GHG emissions as soon as possible, with the recognition that developing countries may take longer than developed countries. Thereafter, nations are to undergo rapid reductions in accordance to best available technological advances. The nations are to submit national climate action plans that detail future objectives to address climate change.

In supporting a transparency system and global stock-take, the participating nations agreed to meet every 5 years to set more ambitious targets on global climate change as technologically feasible. The nations are to report to each other and to the public on their progress towards implementing targets and goals through a transparency and accountability system.

In adaptation, participating nations are to strengthen the ability of nations to deal with climate impacts and provide continued international support for adaptation to developing countries.

In supporting loss and damage, participating nations understand the importance of minimizing and addressing the loss and damage associated with adverse effects of global climate change. These nations acknowledge the need to cooperate with each other and support each other

through safeguards, such as early warning systems, emergency preparedness, and risk insurance.

Participating nations are to support each other in their efforts to fight against global climate change. Developed countries within the COP21 are to continue their existing collective goal of utilizing 100 billion per year in support of the poorest and most vulnerable participating nations, known as climate finance, until 2025, when a new collective goal will be set (22) (23)

In accordance with Article 21, paragraph 1, of the Paris Agreement, the Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the COP21 accounting in total for at least an estimated 55% of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval, or accession with the Depositary.

On October 5, 2016, the threshold for entry into force of the Paris Agreement was achieved. The Paris Agreement entered into force on November 4, 2016 (24).

Federal Regulation and the Clean Air Act:

Coinciding 2009 meeting in Copenhagen, on December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously the EPA had not regulated GHGs under the Clean Air Act (25) because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In Massachusetts v. Environmental Protection Agency et al. (127 S. Ct. 1438 (2007), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the unintended reduction of greenhouse gas emissions. In order to manage the state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

Title 24 Energy Standards:

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (26) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. With the adoption of the Energy Commission's most recent standard, 2016 Building Energy Efficiency Standard, California is one step closer to the state's 2020 zero net energy goal, in which buildings produce as much energy as it consumes. The 2016 Standard is 28 percent more efficient for residential construction and 5 percent more efficient for nonresidential construction than previous standards. The Standards, which took effect on January 1, 2017, focus on three key areas: updating residential requirements to move closer to California's zero net energy goals, updating nonresidential and high-rise residential requirements, and improving the clarity and consistency of existing regulations. Some improved measures in the Standards include (27):

Residential:

- High performance attics: extra insulation at the roof deck ceiling insulation to reduce attic temperature during hot summer days.
- High performance walls to reduce heating and cooling needs year-round.
- Lighting: Installation of high quality lighting that will require half the energy needs.
- Water Heating: Installation of tankless water heaters that reduce use by about 35 percent.

Nonresidential:

- Envelope: Revision of outer building (building envelope) requirements for all nonresidential and high-rise residential buildings.
- Lighting: Update power for lights to align with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards.
- Elevators: Require lights and fans to shut off when elevator is empty.
- Escalators and moving walkways in transit areas to be run at a lower, less energy-consuming speed when not in use.
- Windows and doors: Require lockout sensors that turn off cooling and heating systems if a door or window if left open for more than five minutes.

CALGreen:

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code) (28). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource

efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released the 2010 California Green Building Standards Code on its Web site. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

CALGreen contains both mandatory and voluntary measures, for Non-Residential land uses there are 39 mandatory measures including, but not limited to: exterior light pollution reduction, wastewater reduction by 20%, and commissioning of projects over 10,000 sf. There are two tiers of voluntary measures for Non-Residential land uses for a total of 36 additional elective measures.

The 2016 CALGreen includes additions and amendments to the construction waste reduction, disposal and recycling, and new requirements for photovoltaic systems and electric vehicle chargers (29). The 2016 CALGreen has also been rewritten to clarify and definitively identify the requirements and applicability for residential and nonresidential buildings.

California Assembly Bill No. 1493 (AB 1493):

AB 1493 requires CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The Legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in California (30). Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016.

In December 2004, a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon, in her official capacity as Executive Director of the California Air Resources Board, et al.). The suit, heard in the U.S. District Court for the Eastern District of California, contended that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, Massachusetts vs. EPA, the primary issue in question is whether the federal CAA provides authority for USEPA to regulate CO2 emissions. In

April 2007, the U.S. Supreme Court ruled in Massachusetts' favor, holding that GHGs are air pollutants under the CAA. On December 11, 2007, the judge in the Central Valley Chrysler-Jeep case rejected each plaintiff's arguments and ruled in California's favor. On December 19, 2007, the USEPA denied California's waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging USEPA's denial on January 2, 2008.

The Obama administration subsequently directed the USEPA to re-examine their decision. On May 19, 2009, challenging parties, automakers, the State of California, and the federal government reached an agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the USEPA and the U.S. Department of Transportation agreed to adopt a federal program to reduce GHGs and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent or greater greenhouse gas benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by "pooling" California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California's standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009, http://www.arb.ca.gov/regact/2009/ghgpv09/ghgpvisor.pdf) both of these programs are aimed at light-duty auto and light-duty trucks.

Executive Order S-3-05:

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change (31). It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 1990 level by 2020, and to 80% below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary also is required to submit biannual reports to the Governor and state Legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

California Assembly Bill 32 (AB 32):

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020 (1). This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent). Accordingly, 427 MMTs of CO2 equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the 28.4 percent reduction to be implemented by CARB regulations) for 2020 were projected to be 596 MMTs.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plants, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO2 emissions in the State.

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

Table 2-3 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 MMTons of CO2e, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB

32, CARB is recommending GHG reduction goals of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 MMTons tons of CO2e (or approximately 1.2 percent of the GHG reduction target).

**TABLE 2-3: SCOPING PLAN GHG REDUCTION MEASURES TOWARDS 2020 TARGET**

| *Recommended Reduction Measures* | *Reductions Counted toward 2020 Target of 169 MMT CO2e* | *Percentage of Statewide 2020 Target* |
|---|---|---|
| Cap and Trade Program and Associated Measures | | |
| California Light-Duty Vehicle GHG Standards | 31.7 | 19% |
| Energy Efficiency | 26.3 | 16% |
| Renewable Portfolio Standard (33 percent by 2020) | 21.3 | 13% |
| Low Carbon Fuel Standard | 15 | 9% |
| Regional Transportation-Related GHG Targets[1] | 5 | 3% |
| Vehicle Efficiency Measures | 4.5 | 3% |
| Goods Movement | 3.7 | 2% |
| Million Solar Roofs | 2.1 | 1% |
| Medium/Heavy Duty Vehicles | 1.4 | 1% |
| High Speed Rail | 1.0 | 1% |
| Industrial Measures | 0.3 | 0% |
| Additional Reduction Necessary to Achieve Cap | 34.4 | 20% |
| Total Cap and Trade Program Reductions | 146.7 | 87% |
| Uncapped Sources/Sectors Measures | | |
| High Global Warming Potential Gas Measures | 20.2 | 12% |
| Sustainable Forests | 5 | 3% |
| Industrial Measures (for sources not covered under cap and trade program) | 1.1 | 1% |
| Recycling and Waste (landfill methane capture) | 1 | 1% |
| Total Uncapped Sources/Sectors Reductions | 27.3 | 16% |
| Total Reductions Counted toward 2020 Target | 174 | 100% |
| Other Recommended Measures – Not Counted toward 2020 Target | | |
| State Government Operations | 1.0 to 2.0 | 1% |
| Local Government Operations | To Be Determined[2] | NA |
| Green Buildings | 26 | 15% |
| Recycling and Waste | 9 | 5% |
| Water Sector Measures | 4.8 | 3% |
| Methane Capture at Large Dairies | 1 | 1% |
| Total Other Recommended Measures – Not Counted toward 2020 Target | 42.8 | NA |

Source: CARB. 2008, MMTons CO2e: million metric tons of CO2e

[1]Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

[2]According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

Overall, CARB determined that achieving the 1990 emission level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent in the absence of new laws and regulations (referred to as "Business-As-Usual" [BAU]). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and California Climate Action Team early actions and additional GHG reduction measures, identifies additional measures to be pursued as regulations, and outlines the role of the cap-and-trade program.

In connection with its preparation of the August 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, CARB released revised estimates of the 2020 emissions level projection in light of the economic recession and the availability of updated information from development of measure-specific regulations. Based on the new economic data, CARB determined the 2020 emissions level projection in the BAU condition would be reduced from 596 metric tons of CO2 equivalent (MTCO2e) to 545 MTCO2e. (32) Under this scenario, achieving the 1990 emissions level in 2020 would require a reduction of GHG emissions of 118 MTCO2e, or 21.7 percent (down from 28.5 percent), from the BAU condition.

When the 2020 emissions level projection also was updated to account for implemented regulatory measures, including Pavley (vehicle model-years 2009 - 2016) and the renewable portfolio standard (12% - 20%), the 2020 projection in the BAU condition was reduced further to 507 MTCO2e. As a result, based on the updated economic and regulatory data, CARB determined that achieving the 1990 emissions level in 2020 would now only require a reduction of GHG emissions of 80 MTCO2e, or approximately 16 percent (down from 28.5 percent), from the BAU condition. (32) (33)

On February 10, 2014, CARB released a Draft Proposed First Update of the Scoping Plan. The draft recalculates 1990 GHG emissions using new global warming potentials identified in the IPCC Fourth Assessment Report released in 2007. Using those GWPs, the 427 MTCO2e 1990 emissions level and 2020 GHG emissions limit identified in the 2008 Scoping Plan would be slightly higher, at 431 MTCO2e. (34) Based on the revised 2020 emissions level projection identified in the 2011 Final Supplement and the updated 1990 emissions levels identified in the discussion draft of the First Update, achieving the 1990 emissions level in 2020 would require a reduction of 78 MTCO2e (down from 509 MTCO2e), or approximately 15.3 percent (down from 28.5 percent), from the BAU condition. (32) (33) (34)

On January 20, 2017, ARB released the proposed Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy (35). The Second Update would reflect the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes. It should be noted the proposed Second Update is undergoing a review period and has not yet been adopted.

California Senate Bill No. 1368 (SB 1368):

In 2006, the State Legislature adopted Senate Bill 1368 ("SB 1368"), which was subsequently signed into law by the Governor (36). SB 1368 directs the California Public Utilities Commission ("CPUC") to adopt a greenhouse gas emission performance standard ("EPS") for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants.

Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368.

CEQA Guidelines

CEQA Guideline § 15064.4(a)"A lead agency shall have discretion to determine, in the context of a particular project, whether to: 1. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or 2. Rely on a qualitative analysis or performance based standards."

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a Project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emission are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support determination that a Project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (See CEQA Guidelines Section 15130(f)).

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of greenhouse gas emissions:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Executive Order S-01-07:

On January 18, 2007 California Governor Arnold Schwarzenegger, through Executive Order S-01-07, mandated a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020 (37). The order also requires that a California specific Low Carbon Fuel Standard be established for transportation fuels.

Senate Bills 1078 and 107 and Executive Order S-14-08:

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017 (38). SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010 (37). In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33% renewable power by 2020 (39).

Executive Order B-30-15:

In January 2015, Governor Brown, in his inaugural address and annual report to the Legislature, established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50% measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

On April 29, 2015 California Governor Jerry Brown, through Executive Order B-30-15 ("BEO") states a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030.

The BEO sets an ambitious new Statewide GHG emissions reduction target of 40% below 1990 levels by 2030 as a "mid-term" benchmark needed to achieve the 80% below 1990 levels by 2050 (40).

Senate Bill 32:

On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in

Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050 (41).

Senate Bill 375:

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035.

These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

The Southern California Association of Governments (SCAG) is required by law to update the Southern California Regional Transportation Plan (RTP) every four years. The 2012 draft plan has been released, this draft plan differs from past plans because it includes development of a SCS. The RTP/SCS incorporates land use and housing policies to meet the greenhouse gas emissions targets established by the California Air Resource Board (CARB) for 2020 (8% reduction) and 2035 (13% reduction). On April 4, 2012, the Regional Council of the Southern California Association of Governments (SCAG) adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future.

South Coast Air Quality Management District Recommendations for Significance Thresholds:

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group." The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until CARB (or some other state agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential; non-residential; industrial; etc (42). However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for industrial projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of carbon dioxide equivalent (MTCO2e) as a screening numerical threshold for industrial projects.

The proposed project could result in potentially significant impacts related to greenhouse gas emissions and global climate change if it would:

- Generate greenhouse gas 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 purposes of reducing the emissions of greenhouse gases.

A numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin (Basin) has not been established by the South Coast Air Quality Management District (SCAQMD) for Projects where it is not the lead agency. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 10,000 metric tons carbon dioxide equivalent (MTCO2E) per year for industrial projects (43). This threshold is based on the review of 711 CEQA projects. This threshold has also been adopted by the SCAQMD for industrial projects where it is the lead agency. This threshold will be utilized herein to determine if emissions of greenhouse gases from this project will be significant.

## 2.8 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the SCAG region was prepared to ensure that the Southern California region attains the per capita vehicle miles targets for passenger vehicles identified by CARB, as required by Senate Bill 375 (44). The Project would be consistent with the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

Development of the proposed Project would not conflict with the applicable goals of SCAG's *2016-2040 RTP/SCS.* The *RTP/SCS's Transportation System/Goods Movement* appendix is applicable to the Project because the Project is located in the SCAG region and the Project proposes one high cube logistics warehouse building for intended uses consisting of a variety of light industrial uses, including warehousing/distribution. Because the Project site is located within the SCAG region, an analysis of the Project's consistency with applicable SCAG goals is provided in Table 2-4.

**TABLE 2-4: ANALYSIS OF CONSISTENCY WITH SCAG 2016-2040 RTP/SCS STRATEGY GOALS**

| 2016 RTP/SCS Goal | Goal Statement | Project Consistency Discussion |
|---|---|---|
| G2 | Maximize mobility and accessibility for all people and goods in the region. | No inconsistency identified. The Project Site is located approximately 74 miles from the Ports of LA/Long Beach. As such, development of the Site as a high cube logistics warehouse building would efficiently facilitate the regional movement of goods from their arrival into the United States at the Ports, to their delivery to the end consumers. The Project's Traffic Impact Analysis (TIA), evaluates Project-related traffic impacts and specifies the mitigation measures that would be imposed to ensure that roadway and intersection improvements needed to accommodate Project traffic volumes are implemented concurrent with proposed development. Project trucks would be required to travel on designated truck routes in the City of San Bernardino to ultimately reach the state highway system to facilitative goods movement throughout the region. |
| G6 | Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking). | No inconsistency identified. The air quality impact report (AQIA) prepared for the Project identifies mitigation measures to reduce, to the extent feasible, the Project's air quality impacts. Additionally, and as discussed in Section 1.6, *Operational Mitigation Measures*, the Project would incorporate measures related to building design, landscaping, and energy systems to promote the efficient use of energy. |
| G7 | Actively encourage and create incentives for energy efficiency, where possible. | No inconsistency identified. This policy provides guidance to City staff to establish local incentive programs to encourage and promote energy efficient development. As discussed in Section 1.6, *Operational Mitigation Measures*, the Project would incorporate various measures related to building design, landscaping, and energy systems to promote the efficient use of energy. |

## 2.9 CONSISTENCY WITH CARB SCOPING PLAN

Table 2-5 below, presents the 39 Recommended Actions (qualitative measures) identified to date by CARB in its Climate Change Proposed Scoping Plan. Of the 39 measures identified, those that would be considered to be applicable to the Project would primarily be those actions related to transportation, electricity and natural gas use, green building design and industrial uses. Consistency of the Project with these measures is evaluated by each source-type measure below. Table 2-5 identifies which CARB Recommended Actions apply to the Project, and of those, whether the Project is consistent therewith. A discussion of how the Project is consistent with each applicable CARB Recommended Action is set forth after Table 2-5.

## TABLE 2-5: RECOMMENDED ACTIONS FOR CLIMATE CHANGED PROPOSED SCOPING PLAN

| ID # | Sector | Strategy Name | Applicable to Project? | Will Project Conflict With Implementation? |
|---|---|---|---|---|
| T-1 | Transportation | Pavley I and II – Light-Duty Vehicle GHG Standards | NO | NO |
| T-2 | Transportation | Low Carbon Fuel Standard (Discrete Early Action) | NO | NO |
| T-3 | Transportation | Regional Transportation-Related GHG Targets | NO | NO |
| T-4 | Transportation | Vehicle Efficiency Measures | NO | NO |
| T-5 | Transportation | Ship Electrification at Ports (Discrete Early Action) | NO | NO |
| T-6 | Transportation | Goods-movement Efficiency Measures | NO | NO |
| T-7 | Transportation | Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action) | NO | NO |
| T-8 | Transportation | Medium and Heavy-Duty Vehicle Hybridization | NO | NO |
| T-9 | Transportation | High Speed Rail | NO | NO |
| E-1 | Electricity and Natural Gas | Increased Utility Energy efficiency programs<br>More stringent Building and Appliance Standards | YES | NO |
| E-2 | Electricity and Natural Gas | Increase Combined Heat and Power Use by 30,000GWh | NO | NO |
| E-3 | Electricity and Natural Gas | Renewable Portfolio Standard | NO | NO |
| E-4 | Electricity and Natural Gas | Million Solar Roofs | YES | NO |
| CR-1 | Electricity and Natural Gas | Energy Efficiency | YES | NO |
| CR-2 | Electricity and Natural Gas | Solar Water Heating | NO | NO |
| GB-1 | Green Buildings | Green Buildings | YES | NO |
| W-1 | Water | Water Use Efficiency | YES | NO |
| W-2 | Water | Water Recycling | NO | NO |
| W-3 | Water | Water System Energy Efficiency | YES | NO |
| W-4 | Water | Reuse Urban Runoff | NO | NO |
| W-5 | Water | Increase Renewable Energy Production | NO | NO |
| W-6 | Water | Public Goods Charge (Water) | NO | NO |
| I-1 | Industry | Energy Efficiency and Co-benefits Audits for Large Industrial Sources | YES | NO |
| I-2 | Industry | Oil and Gas Extraction GHG Emission Reduction | NO | NO |
| I-3 | Industry | GHG Leak Reduction from Oil and Gas Transmission | NO | NO |
| I-4 | Industry | Refinery Flare Recovery Process Improvements | NO | NO |
| I-5 | Industry | Removal of Methane Exemption from Existing Refinery Regulations | NO | NO |
| RW-1 | Recycling and Waste Management | Landfill Methane Control (Discrete Early Action) | NO | NO |
| RW-2 | Recycling and Waste Management | Additional Reductions in Landfill Methane – Capture Improvements | NO | NO |
| RW-3 | Recycling and Waste Management | High Recycling/Zero Waste | NO | NO |
| F-1 | Forestry | Sustainable Forest Target | NO | NO |
| H-1 | High Global Warming Potential Gases | Motor Vehicle Air Conditioning Systems (Discrete Early Action) | NO | NO |
| H-2 | High Global Warming Potential Gases | $SF_6$ Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action) | NO | NO |
| H-3 | High Global Warming Potential Gases | Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action) | NO | NO |
| H-4 | High Global Warming Potential Gases | Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008) | NO | NO |
| H-5 | High Global Warming Potential Gases | High GWP Reductions from Mobile Sources | NO | NO |
| H-6 | High Global Warming Potential Gases | High GWP Reductions from Stationary Sources | NO | NO |
| H-7 | High Global Warming Potential Gases | Mitigation Fee on High GWP Gases | NO | NO |
| A-1 | Agriculture | Methane Capture at Large Dairies | NO | NO |

SOURCE: CARB, 2008.

Discussion of the applicability of each measure and Project consistency with or support of its implementation follows. It also noted that certain measures and enforcement actions listed below are beyond the scope of control of the Project. Notwithstanding implementation and enforcement of these measures by the State or other responsible entity will act to reduce areawide GHG emissions.

Transportation

CARB's Scoping Plan identifies nine transportation-related recommended actions. Action T-1 concerns improvements to light-duty vehicle technology for the purposes of reducing GHG emissions. This action focuses on legislating improved controls for vehicle manufacturers and would not generally be considered applicable to the proposed Project. Implementation of the Pavley standards is dependent on implementation by the State on vehicle fuel economy standards.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with measures concerning the Pavley standards.

Action T-2 concerns implementation of a low carbon fuel standard. To reduce the carbon intensity of transportation fuels, CARB is developing a Low Carbon Fuel Standard (LCFS), which would reduce the carbon intensity of California's transportation fuels by at least ten percent by 2020 as called for by Governor Schwarzenegger in Executive Order S-01-07. LCFS will incorporate compliance mechanisms that provide flexibility to fuel providers in how they meet the requirements to reduce greenhouse gas emissions.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with measures concerning the use of low carbon fuels.

Action T-3 addresses regional transportation targets for reducing GHG emissions. SB 375 requires CARB to develop, in consultation with metropolitan planning organizations (MPOs), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035. It sets forth a collaborative process to establish these targets, including the appointment by CARB of a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emissions reduction targets. SB 375 also provides incentives – relief from certain California Environmental Quality Act (CEQA) requirements for development projects that are consistent with regional plans that achieve the targets.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with measures concerning SB375.

Action T-4 is concerned with vehicle efficiency measures. The California Integrated Waste Management Board (CIWMB) with various partners continues to conduct a public awareness campaign to promote sustainable tire practices. CARB is pursuing a regulation to ensure that tires are properly inflated when vehicles are serviced. In addition, CEC in consultation with CIWMB is developing an efficient tire program focusing first on data gathering and outreach, then on potential adoption of minimum fuel-efficient tire standards, and lastly on the development of consumer information requirements for replacing tires. CARB is also pursuing

ways to reduce engine load via lower friction oil and reducing the need for air conditioner use. ARB is actively engaged in the regulatory development process for the tire inflation component of this measure.

Implementation of such a standard is not within the purview of this Project. Therefore, the proposed Project would not conflict with applicable measures.

Action T-5 addresses electrification of ships at ports and is not applicable to the proposed Project.

Action T-6 also primarily addresses port operations and is not applicable to the proposed Project.

Action T-7 requires existing trucks/trailers to be retrofitted with the best available technology and/or CARB-approved technology.

Implementation of such a standard is not within the purview of the proposed Project since various trucks fleets from numerous commercial entities may access the site. Therefore, the proposed Project would not conflict with this measure.

Action T-8 focuses on hybridization of medium- and heavy-duty vehicles. The implementation approach to Action T-8 is to adopt a regulation and/or incentive program that reduces GHG emissions by encouraging hybrid technology as applied to vocational applications that have significant urban, stop-and-go driving, idling, and power take-off operations in their duty cycle. Such applications include parcel delivery trucks and vans.

Implementation of such a standard is not within the purview of the proposed Project since various trucks fleets from numerous commercial entities may access the site. Therefore, the proposed Project would not conflict with this measure.

Action T-9 concerns implementation of a high speed rail system. This measure is not applicable to the Project.

Electricity and Natural Gas

Action E-1/CR-1, together with Action GB-1 (Green Building), aims to reduce electricity demand by increased efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards.

The Project will comply with or surpass incumbent Title 24 Energy Efficiency Standards. Therefore, the proposed Project would not conflict with this measure.

Action E-2 encourages an increase in the use of combined heat and power (CHP) use, or co-generation, facilities. California has supported CHP for many years, but market and other barriers continue to keep CHP from reaching its full market potential. Increasing the deployment of efficient CHP will require a multi-pronged approach that includes addressing significant barriers and instituting incentives or mandates where appropriate.

Implementation of such a standard is not within the purview of the proposed Project; therefore, the proposed Project would not conflict with this measure.

Action E-3 concerns Renewable Portfolio Standards for utilities and does not apply to development projects.

Action E-4 strives to promote solar generated electricity.

Project building designs will accommodate renewable energy sources, such as photovoltaic solar electricity systems, appropriate to their architectural design(s). The Project would therefore not conflict with the recommended measure.

Action CR-2 strives to promote solar water heaters (SWH). The ARB recommends that California pursue approaches with the goal of developing a viable SWH industry for 2020 and beyond.

Implementation of such a standard is not within the purview of the Project; therefore, the proposed Project would not conflict with this measure.

Water Use

Implementation of all but two of the Recommended Actions related to water use are not within the purview of the proposed Project. The two measures that apply are measures W-1 (Water Use Efficiency) and W-3 (Water System Energy Efficiency). However, since the proposed Project would not exceed the audit threshold of 25,000 MT $CO_2$ (45) from on-site combustion and related activities, the proposed Project is consistent with and would not obstruct the recommended actions.

Industrial Use

All but one of the Recommended Actions related to industrial use are specific to oil and gas extraction, refining and transmission and are not applicable to the proposed Project. The one other Action I-1 targets large emitters of GHGs (in excess of 0.5 million metric tons (MMT)/year of $CO_2E$ (equivalent)) for auditing[4] (46). Because the proposed Project would not exceed the audit threshold, as set forth in Section 3.0, the proposed Project is consistent with and would not obstruct the recommended actions.

[4] Certain "covered sectors" of activities in California account for 85% of GHG emissions. Each source in these sectors will be subject to a system of declining GHG emissions allowances issued by CARB under a total emissions cap, as well as an allowance trading system. The Plan's lynch-pin is a cap-and-trade program that would apply to the electricity sector, the transportation sector, the commercial and residential sector, and large industrial sources (those emitting more than 0.5 million metric tons per year of carbon dioxide ("CO2") equivalents).

**Consistency with SB 32**

Senate Bill 32 (SB 32) requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050 (41) (47).

According to research conducted by the Lawrence Berkeley National Laboratory and supported by the CARB, California, under its existing and proposed GHG reduction policies, is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32. (48) (49).

The project would not actively interfere with any future City-mandated, state-mandated, or federally-mandated retrofit obligations enacted or promulgated to legally require development City-wide, state-wide, or nation-wide to assist in meeting state-adopted greenhouse gas emissions reduction targets, including that established under Executive Order S-3-05, Executive Order B-30-15, or SB 32.

The Project does not interfere with the state's implementation of (i) Executive Order B-30-15 and SB 32's target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 or (ii) Executive Order S-3-05's target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 because it does not interfere with the state's implementation of GHG reduction plans described in the CARB's Draft Updated Scoping Plan, including the state providing for 12,000 MW of renewable distributed generation by 2020, the California Building Commission mandating net zero energy homes in the building code after 2020, or existing building retrofits under AB 758. Therefore, the project's impacts on greenhouse gas emissions in the 2030 and 2050 horizon years are less than significant.

# 3 PROJECT GREENHOUSE GAS IMPACT

## 3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant greenhouse gas impact. The significance of these potential impacts is described in the following section.

## 3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related greenhouse gas impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 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 greenhouse gas 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 greenhouse gases?

The City of San Bernardino does not have an adopted threshold of significance for GHG emissions. For CEQA purposes, the City has discretion to select an appropriate significance criterion, based on substantial evidence. The AQMD's adopted numerical threshold of 10,000 MTCO2e per year for industrial stationary source emissions is selected as the significance criterion. The AQMD-adopted industrial threshold was selected by the City because the proposed Project is analogous to an industrial use much more closely than any other land use such as commercial or residential in terms of its expected operating characteristics. The Project proposes large buildings with loading bays and fenced truck courts that are expected to house businesses that serve mid- stream functions in the goods movement chain between manufacturers and consumers, characteristic of an industrial operation. Further, analysis of the Project's traffic generation in this EIR is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual,9th Edition, 2012 for industrial and warehouse uses. Also, 10,000 MTCO2e has been used as the significance threshold by many local government lead agencies for logistics projects throughout the SCAG region since the AQMD adopted this threshold for its own use. Further, to ensure that the threshold is conservative in its application, although the AQMD uses their adopted 10,000 MTCO2e threshold to determine the significance of stationary source emissions for industrial projects, the 10,000 MTCO2e threshold used in this EIR is applied to all sources of Project-related GHG emissions whether stationary source, mobile source, area source, or other.

Use of this threshold is also consistent with guidance provided in the CAPCOA *CEQA and Climate Change* handbook, as such the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD

using this method is 10,000 metric tons carbon dioxide equivalent (MTCO2E) per year for industrial projects. This threshold is based on the review of 711 CEQA projects.

## 3.3 PROJECT RELATED GREENHOUSE GAS EMISSIONS

CEQA Guidelines 15064.4 (b) (1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project (50).

On October 14, 2016, 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™) v2016.3.1. The purpose of this model is to calculate construction-source 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 (51). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1

## 3.4 CONSTRUCTION AND OPERATIONAL LIFE-CYCLE ANALYSIS

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time a LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (52). Additionally, the science to calculate life cycle emissions is not yet established or well defined, therefore SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

## 3.5 CONSTRUCTION EMISSIONS

Construction activities associated with the proposed Project will result in emissions of CO2 and CH4 from construction activities.

The report Gateway South Building 4 Air Quality Impact Analysis Report, Urban Crossroads, Inc. (2017) contains detailed information regarding construction activity (53).

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions (54).

As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions.

## 3.6 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO2, CH4, and N2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Solid Waste
- Water Supply, Treatment and Distribution
- On-Site Equipment Emissions

### 3.6.1 AREA SOURCE EMISSIONS

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/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.

### 3.6.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod™ default parameters were used.

### 3.6.3 MOBILE SOURCE EMISSIONS

Vehicles

GHG emissions will also result from mobile sources associated with the Project. These mobile source emissions will result from the typical daily operation of motor vehicles by visitors, employees, and customers.

Project-related operational air quality impacts derive predominantly from mobile sources. In this regard, approximately 94 percent (by weight) of all Project operational-source emissions would be generated by mobile sources (vehicles). Neither the Project Applicant nor the City has any regulatory control over these tail pipe emissions. Rather, vehicle tail pipe source emissions

are regulated by CARB and USEPA. As summarized previously herein, as the result of CARB and USEPA actions, Basin-wide vehicular-source emissions have been reduced dramatically over the past years and are expected to further decline as clean vehicle and fuel technologies improve.

Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. Trip characteristics available from the report, Gateway South Building 4 Traffic Impact Analysis (Urban Crossroads) 2016 were utilized in this analysis (55). It should be noted that the Project's traffic study presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. Notwithstanding, for purposes of the air quality study, the PCE trips were not used. Rather, to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis.

For purposes of this analysis, the following ITE land use code 152 (High-Cube Warehousing) has been used to derive site specific trip generation. High-cube warehouse/distribution centers (ITE Land Use Code 152) are a unique land use type within the larger, more generalized industrial land use category. ITE's most recent edition of the Trip Generation manual (ITE 9th Edition), published in 2012, defines "high-cube warehouses" as "…used for storage of materials, goods and merchandise prior to their distribution to retail outlets, distribution centers or other warehouses. These facilities are typically characterized by ceiling heights of at least 24 feet with small employment counts due to a high level of mechanization." The average square footage for the sites surveyed for high-cube warehouse/distribution center (Land Use 152) use is above 500,000 square feet. The number of sites observed in the compilation of this data ranges from 57-70 sites of which more than 20 sites exceed 1,000,000 square feet in gross floor area.

The weighted average daily trip generation rate for high-cube warehouse (Land Use 152) use is 1.68 trips per thousand square feet (TSF). Total vehicle mix percentages were also obtained from the ITE Trip Generation manual in conjunction with the South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type (56). The SCAQMD is currently recommending the use of the ITE Trip Generation manual in conjunction with their truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects, as truck emission represent more than 90 percent of air quality impacts from these projects. This recommended procedure has been utilized for the purposes of this analysis in effort to be consistent with other technical studies being prepared for the Project.

The percentage of trucks has been determined from the table shown on page 267 of the ITE *Trip Generation* manual. As shown on page 267, the truck trip generation rate for weekday daily traffic is 0.64 or 38.1% of the total traffic. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of

trucks, by axle type, were obtained from the SCAQMD interim recommended truck mix. The SCAQMD has recently performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the site: 22.03% of the total trucks as 2-axle trucks, 17.76% of the total trucks as 3-axle trucks, and 60.31% of the total trucks as 4+-axle trucks.

#### 3.6.3.1 Trip Length

**Background**

A technical deficiency inherent in calculating the projected vehicle emissions associated with any project is related to the estimation of trip length and vehicle miles traveled (VMT). VMT for a given project is calculated by the total number of vehicle trips to/from the Project x average trip length. This method of estimating VMT for use in calculating vehicle emissions likely results in the over-estimation and double-counting of emissions because, for a distribution warehouse center such as the Project, the land use is likely to attract (divert) existing vehicle trips that are already on the circulation system as opposed to generating new trips. In this regard, the Project would, to a large extent, redistribute existing mobile-source emissions rather than generate additional emissions within the Basin. As such, the estimation of the Fontana Commerce Development Project's vehicular-source emissions is likely overstated in that no credit for, or reduction in, emissions is assumed based on diversion of existing trips.

Provided below is a summary of the VMT recommendations of the SCAQMD and SCAG, followed by a description of the methodology used to calculate the VMT rates used in this GHGA.

**SCAQMD Recommendation**

In the last five years, the SCAQMD has provided numerous comments on the trip length for warehouse/distribution and industrial land use projects (57). The SCAQMD asserts that the model-default trip length in CalEEMod™ and the URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) would underestimate emissions. The SCAQMD asserts that for warehouse, distribution center, and industrial land use projects, most of the heavy-duty trucks would be hauling consumer goods, often from the Ports of Long Beach and Los Angeles (POLA and POLB) and/or to destinations outside of California. The SCAQMD states that for this reason, the CalEEMod™ and the URBan EMISsions model default trip length (approximately 12.6 miles) would not be representative of activities at like facilities. The SCAQMD generally recommends the use of a 40-mile one-way trip length.

**Southern California Association of Government (SCAG) Heavy Duty Truck Model**

SCAG is comprised of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 190 cities in Southern California, and is the organization charged with addressing and resolving short- and long-term regional policy issues. The SCAG region also consists of 14 subregional entities recognized by the Regional Council as partners in the

regional policy planning process. The SCAG region has more than 19 million residents and encompasses more than 38,000 square miles, representing the largest and most diverse region in the country.

SCAG maintains a regional transportation model. In its most recent (2008) transportation validation for the 2003 Regional Model, SCAG indicates the average internal truck trip length for the SCAG region is 5.92 miles for Light Duty Trucks, 13.06 miles for Medium Duty Trucks, and 24.11 miles for Heavy Duty Trucks.

**Approach for Analysis of the Project**

The SCAQMD approach identified above is deemed to be the most applicable for the Project. This same methodology is employed in analyses for similar projects in the City and other jurisdictions within the County, and is considered by the Lead Agency to be appropriate and accurate.

Two separate model runs were utilized in order to more accurately model emissions resulting from vehicle operations. The first run analyzed passenger car emissions, which incorporated a default trip length of 16.6 miles for passenger cars within San Bernardino County and a fleet mix of 100% Light-Duty-Auto vehicles (LDA). The second run analyzed truck emissions, which incorporated an average truck trip length of 40 miles and a fleet mix of: 22.03% of Light-Heavy-Duty (LHD), 17.66% of Medium-Heavy-Duty (MHD), and 60.31% of Heavy-Heavy-Duty (HHD). This proportional truck mix by axle type is based on information provided in the Project's traffic study. The estimated emissions resulting from vehicle operations are summarized in Section 3.7 (presented later in this report.) Detailed emission calculations are provided in Appendix 3.1.

### 3.6.4 SOLID WASTE

Industrial land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod™ model using default parameters.

### 3.6.5 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod™ default parameters were used.

### 3.6.6 ON-SITE EQUIPMENT EMISSIONS

It is common for an industrial warehouse project to require cargo handling equipment 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 (58). Based on the latest available information from SCAQMD (59); high-cube warehouse projects typically have 3.6 yard trucks per million square feet of building space. For this particular Project, on-site modeled operational equipment includes four) yard tractors operating at 4 hours a day (60) for 365 days of the year[5]. In addition to the use of yard trucks operating at the Project site, forklifts are a common piece of equipment used in warehouse operations. The Project includes four 89 hp yard forklifts operating at 4 hours a day for 365 days of the year interior to the building. However, for purposes of the AQIA forklifts are not included in the calculations since there is no diesel exhaust associated with the forklifts as they are assumed to be non-diesel consistent with industry standards.

As part of the Project's design, all on-site outdoor cargo handling equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) will be powered by non-diesel fueled engines and all on-site indoor forklifts shall be powered by electricity, compressed natural gas, or propane.

## 3.7 EMISSIONS SUMMARY

The Project will result in approximately 2,715.50 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 15,799.83 MTCO2e per year from mobile sources if the assumption is made that all of the vehicle trips to and from the Project are "new" trips resulting from the development of the Project. The total amount of Project-related GHG emissions when accounting for applicable regulatory developments and the existing land use GHG emissions would total 18,515.33 MTCO2e as shown on Table 3-1. The proposed Project would exceed the SCAQMD's interim threshold of 10,000 MTCO2e per year. Therefore, impacts associated with GHG emissions would be significant and unavoidable on a cumulative basis.

[5] 4 hour daily on-site operation of the yard trucks is based on the Southern California International Gateway Recirculated Draft EIR. Table C1.2-BL-17 *Activity Data for Existing Business CHE – 2010 Baseline* indicates that the average annual hours of operation for all diesel Container Handling Equipment, Forklifts, and Yard Tractors totaled 72,187 annual operating hours. The total number of pieces of equipment equals 52. As such, 72,187/52 = 1,388 annual hours per piece of equipment. 1,388 annual hours per piece of equipment/365 days = an average of 3.80 hours per day per piece of equipment. As a conservative measure this is rounded up to 4 hours for analytical purposes.

**TABLE 3-1: PROJECT-RELATED GREENHOUSE GAS EMISSIONS**

| Emission Source | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | **$CO_2$** | **$CH_4$** | **$N_2O$** | **Total $CO_2E$** |
| Annual construction-related emissions amortized over 30 years | 66.23 | 0.01 | -- | 66.38 |
| Area | 0.08 | 2.30E-04 | 0.00 | 0.09 |
| Energy | 866.22 | 0.05 | 0.01 | 870.69 |
| Mobile Sources (Trucks) | 13,796.06 | 0.51 | 0.00 | 13,808.78 |
| Mobile Sources (Passenger Cars) | 1,989.84 | 0.05 | 0.00 | 1,991.05 |
| On-Site | 210.67 | 0.07 | 0.00 | 212.31 |
| Waste | 203.19 | 12.01 | 0.00 | 503.40 |
| Water Usage | 801.91 | 8.07 | 0.20 | 1,062.63 |
| **Total $CO_2E$ (All Sources)** | **18,515.33** | | | |

Source: CalEEMod™ model output, See Appendix 3.1 for detailed model outputs.

# 4 FINDINGS & CONCLUSIONS

The City of San Bernardino does not have an adopted threshold of significance for GHG emissions. For CEQA purposes, the City has discretion to select an appropriate significance criterion, based on substantial evidence. The AQMD's adopted numerical threshold of 10,000 MTCO2e per year for industrial stationary source emissions is selected as the significance criterion. The AQMD-adopted industrial threshold was selected by the City because the proposed Project is analogous to an industrial use much more closely than any other land use such as commercial or residential in terms of its expected operating characteristics. The Project proposes large buildings with loading bays and fenced truck courts that are expected to house businesses that serve mid- stream functions in the goods movement chain between manufacturers and consumers, characteristic of an industrial operation. Further, analysis of the Project's traffic generation in this EIR is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition, 2012 for industrial and warehouse uses. Also, 10,000 MTCO2e has been used as the significance threshold by many local government lead agencies for logistics projects throughout the SCAG region since the AQMD adopted this threshold for its own use. Further, to ensure that the threshold is conservative in its application, although the AQMD uses their adopted 10,000 MTCO2e threshold to determine the significance of stationary source emissions for industrial projects, the 10,000 MTCO2e threshold used in this EIR is applied to all sources of Project-related GHG emissions whether stationary source, mobile source, area source, or other.

Use of this threshold is also consistent with guidance provided in the CAPCOA *CEQA and Climate Change* handbook, as such the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 10,000 metric tons carbon dioxide equivalent (MTCO2E) per year for industrial projects. This threshold is based on the review of 711 CEQA projects.

The Project will result in approximately 2,715.50 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 15,799.83 MTCO2e per year from mobile sources if the assumption is made that all of the vehicle trips to and from the Project are "new" trips resulting from the development of the Project. As shown on Table 4-1, the Project has the potential to generate a total of approximately 18,515.33 MTCO2e per year. As such, the Project would exceed the SCAQMD's numeric threshold of 10,000 MTCO2e if it were applied. Thus, the Project has the potential to result in a cumulatively considerable impact with respect to GHG emissions.

**TABLE 4-1: TOTAL PROJECT GHG EMISSIONS (ANNUAL)**

| Emission Source | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | **$CO_2$** | **$CH_4$** | **$N_2O$** | **Total $CO_2E$** |
| Annual construction-related emissions amortized over 30 years | 66.23 | 0.01 | -- | 66.38 |
| Area | 0.08 | 2.30E-04 | 0.00 | 0.09 |
| Energy | 866.22 | 0.05 | 0.02 | 870.69 |
| Mobile Sources (Trucks) | 13,796.06 | 0.51 | 0.00 | 13,808.78 |
| Mobile Sources (Passenger Cars) | 1,989.84 | 0.05 | 0.00 | 1,991.05 |
| On-Site | 210.67 | 0.07 | 0.00 | 212.31 |
| Waste | 203.19 | 12.01 | 0.00 | 503.40 |
| Water Usage | 801.91 | 8.07 | 0.20 | 1,062.63 |
| **Total $CO_2E$ (All Sources)** | **18,515.32** | | | |

Source: CalEEMod™ model output, See Appendix 3.1 for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.

Table results include scientific notation. *e* is used to represent *times ten raised to the power of* (which would be written as x $10^{b}$") and is followed by the value of the exponent

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# 6 CERTIFICATION

The contents of this greenhouse gas study report represent an accurate depiction of the greenhouse gas impacts associated with the proposed Gateway South Building 4 Project. The information contained in this greenhouse gas report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5987.

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

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

### PROFESSIONAL AFFILIATIONS

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

### PROFESSIONAL CERTIFICATIONS

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

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# APPENDIX 3.1:

# CALEEMOD EMISSIONS MODEL OUTPUTS

# Building 4 Construction- Unmitigated

**San Bernardino-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 1,064.88 | 1000sqft | 41.55 | 1,064,880.00 | 0 |
| Parking Lot | 2,277.00 | Space | 20.49 | 910,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2018 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 497.64 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Building 4 Construction- Unmitigated - San Bernardino-South Coast County, Annual

Project Characteristics - CPUC GHG Calculator version 3c, worksheet tab "CO2 Allocations," cells AH/AQ 35-44.

Land Use - Total lot acreage: 62.04; A trailer parking space required significantly more space than one regular parking space. Therefore, for analysis purposes, 1 trailer parking=3.27 parking spaces

Construction Phase - Based on 2018 opening year and past project experience

Off-road Equipment - Based on information provided by the project engineer

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Off-road Equipment - Off-highway trucks= water truckd

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Off-road Equipment - Off-highway trucks= water trucks

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Trips and VMT -

Demolition -

Grading -

Architectural Coating - Based on Rule 1113 and information provided by the Project engineer

Vehicle Trips - Construction only

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Construction only

Consumer Products - Construction only

Area Coating - Construction only

Landscape Equipment - Construction only

Energy Use - Construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Construction Off-road Equipment Mitigation -

Building 4 Construction- Unmitigated - San Bernardino-South Coast County, Annual

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 532,440.00 | 202,500.00 |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,597,320.00 | 207,820.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 40 | 0 |
| tblConstructionPhase | NumDays | 75.00 | 50.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 210.00 |
| tblConstructionPhase | NumDays | 70.00 | 30.00 |
| tblConstructionPhase | NumDays | 110.00 | 55.00 |
| tblConstructionPhase | NumDays | 75.00 | 20.00 |
| tblConsumerProducts | ROG_EF | 1.98E-05 | 0 |
| tblConsumerProducts | ROG_EF_Degreaser | 3.542E-07 | 1E-10 |
| tblConsumerProducts | ROG_EF_PesticidesFertilizers | 5.152E-08 | 1E-10 |
| tblEnergyUse | LightingElect | 0.88 | 0.00 |
| tblEnergyUse | LightingElect | 1.20 | 0.00 |
| tblEnergyUse | NT24E | 0.82 | 0.00 |
| tblEnergyUse | NT24NG | 0.03 | 0.00 |
| tblEnergyUse | T24E | 0.39 | 0.00 |
| tblEnergyUse | T24NG | 2.02 | 0.00 |
| tblLandscapeEquipment | NumberSummerDays | 250 | 0.1 |
| tblLandUse | LotAcreage | 24.45 | 41.55 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 5.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 497.64 |
| tblRoadDust | RoadPercentPave | 100 | 0 |
| tblSolidWaste | SolidWasteGenerationRate | 1,000.99 | 0.00 |
| tblVehicleTrips | ST_TR | 1.68 | 0.00 |
| tblVehicleTrips | SU_TR | 1.68 | 0.00 |
| tblVehicleTrips | WD_TR | 1.68 | 0.00 |
| tblWater | IndoorWaterUseRate | 246,253,500.00 | 0.00 |

# 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.7412 | 7.8948 | 4.6954 | 9.1700e-003 | 1.0068 | 0.3305 | 1.3373 | 0.3888 | 0.3056 | 0.6944 | 0.0000 | 847.3769 | 847.3769 | 0.1921 | 0.0000 | 852.1804 |
| 2018 | 1.9126 | 8.0127 | 7.3233 | 0.0217 | 1.0671 | 0.2553 | 1.3224 | 0.2877 | 0.2422 | 0.5299 | 0.0000 | 1,986.7974 | 1,986.7974 | 0.1808 | 0.0000 | 1,991.3168 |
| **Maximum** | **1.9126** | **8.0127** | **7.3233** | **0.0217** | **1.0671** | **0.3305** | **1.3373** | **0.3888** | **0.3056** | **0.6944** | **0.0000** | **1,986.7974** | **1,986.7974** | **0.1921** | **0.0000** | **1,991.3168** |

### 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 | | | | | |
| 2017 | 0.7412 | 7.8948 | 4.6954 | 9.1700e-003 | 0.4948 | 0.3305 | 0.8254 | 0.1792 | 0.3056 | 0.4848 | 0.0000 | 847.3762 | 847.3762 | 0.1921 | 0.0000 | 852.1797 |
| 2018 | 1.9126 | 8.0127 | 7.3233 | 0.0217 | 1.0671 | 0.2553 | 1.3224 | 0.2877 | 0.2422 | 0.5299 | 0.0000 | 1,986.7970 | 1,986.7970 | 0.1808 | 0.0000 | 1,991.3163 |
| **Maximum** | **1.9126** | **8.0127** | **7.3233** | **0.0217** | **1.0671** | **0.3305** | **1.3224** | **0.2877** | **0.3056** | **0.5299** | **0.0000** | **1,986.7970** | **1,986.7970** | **0.1921** | **0.0000** | **1,991.3163** |

| | ROG | NOx | 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** | **24.69** | **0.00** | **19.25** | **30.99** | **0.00** | **17.12** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **6-1-2017** | **8-31-2017** | 1.5022 | 1.5022 |
| **2** | **9-1-2017** | **11-30-2017** | 6.0189 | 6.0189 |
| **3** | **12-1-2017** | **2-28-2018** | 3.1244 | 3.1244 |
| **4** | **3-1-2018** | **5-31-2018** | 3.0732 | 3.0732 |
| **5** | **6-1-2018** | **8-31-2018** | 3.0723 | 3.0723 |
| **6** | **9-1-2018** | **9-30-2018** | 0.6672 | 0.6672 |
| | | **Highest** | 6.0189 | 6.0189 |

## 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

## 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

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

## 3.0 Construction Detail

**Construction Phase**

Building 4 Construction- Unmitigated - San Bernardino-South Coast County, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 6/1/2017 | 7/12/2017 | 5 | 30 | |
| 2 | Site Preparation | Site Preparation | 7/13/2017 | 9/6/2017 | 5 | 40 | |
| 3 | Grading | Grading | 9/7/2017 | 11/22/2017 | 5 | 55 | |
| 4 | Building Construction | Building Construction | 11/23/2017 | 9/12/2018 | 5 | 210 | |
| 5 | Architectural Coating | Architectural Coating | 9/13/2018 | 11/21/2018 | 5 | 50 | |
| 6 | Paving | Paving | 11/22/2018 | 12/19/2018 | 5 | 20 | |

**Acres of Grading (Site Preparation Phase): 20**

**Acres of Grading (Grading Phase): 467.5**

**Acres of Paving: 20.49**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 207,820; Non-Residential Outdoor: 202,500; Striped Parking Area: 54,648 (Architectural Coating – sqft)**

**OffRoad Equipment**

Building 4 Construction- Unmitigated - San Bernardino-South Coast County, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Excavators | 1 | 8.00 | 158 | 0.38 |
| Demolition | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Off-Highway Trucks | 2 | 8.00 | 189 | 0.50 |
| Site Preparation | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 0 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 189 | 0.50 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 8 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 5 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Building Construction | Tractors/Loaders/Backhoes | 0 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 8.00 | 78 | 0.48 |
| Paving | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 4 | 10.00 | 0.00 | 80.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 15 | 38.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 12 | 830.00 | 324.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 166.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 7 | 18.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Demolition - 2017

**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 | | | | | 8.6500e-003 | 0.0000 | 8.6500e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0429 | 0.4324 | 0.2195 | 4.2000e-004 | | 0.0220 | 0.0220 | | 0.0206 | 0.0206 | 0.0000 | 38.3630 | 38.3630 | 9.9900e-003 | 0.0000 | 38.6128 |
| **Total** | **0.0429** | **0.4324** | **0.2195** | **4.2000e-004** | **8.6500e-003** | **0.0220** | **0.0307** | **1.3100e-003** | **0.0206** | **0.0219** | **0.0000** | **38.3630** | **38.3630** | **9.9900e-003** | **0.0000** | **38.6128** |

## 3.2 Demolition - 2017

### 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 | 3.3000e-004 | 0.0126 | 1.8900e-003 | 3.0000e-005 | 6.9000e-004 | 6.0000e-005 | 7.5000e-004 | 1.9000e-004 | 6.0000e-005 | 2.5000e-004 | 0.0000 | 3.0778 | 3.0778 | 1.8000e-004 | 0.0000 | 3.0824 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 8.6000e-004 | 8.3800e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.5496 | 1.5496 | 6.0000e-005 | 0.0000 | 1.5512 |
| **Total** | **1.3200e-003** | **0.0134** | **0.0103** | **5.0000e-005** | **2.3300e-003** | **7.0000e-005** | **2.4100e-003** | **6.3000e-004** | **7.0000e-005** | **7.0000e-004** | **0.0000** | **4.6274** | **4.6274** | **2.4000e-004** | **0.0000** | **4.6335** |

### 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 | | | | | 3.3700e-003 | 0.0000 | 3.3700e-003 | 5.1000e-004 | 0.0000 | 5.1000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0429 | 0.4324 | 0.2195 | 4.2000e-004 | | 0.0220 | 0.0220 | | 0.0206 | 0.0206 | 0.0000 | 38.3629 | 38.3629 | 9.9900e-003 | 0.0000 | 38.6127 |
| **Total** | **0.0429** | **0.4324** | **0.2195** | **4.2000e-004** | **3.3700e-003** | **0.0220** | **0.0254** | **5.1000e-004** | **0.0206** | **0.0211** | **0.0000** | **38.3629** | **38.3629** | **9.9900e-003** | **0.0000** | **38.6127** |

## 3.2 Demolition - 2017

**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 | 3.3000e-004 | 0.0126 | 1.8900e-003 | 3.0000e-005 | 6.9000e-004 | 6.0000e-005 | 7.5000e-004 | 1.9000e-004 | 6.0000e-005 | 2.5000e-004 | 0.0000 | 3.0778 | 3.0778 | 1.8000e-004 | 0.0000 | 3.0824 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 8.6000e-004 | 8.3800e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.5496 | 1.5496 | 6.0000e-005 | 0.0000 | 1.5512 |
| **Total** | **1.3200e-003** | **0.0134** | **0.0103** | **5.0000e-005** | **2.3300e-003** | **7.0000e-005** | **2.4100e-003** | **6.3000e-004** | **7.0000e-005** | **7.0000e-004** | **0.0000** | **4.6274** | **4.6274** | **2.4000e-004** | **0.0000** | **4.6335** |

## 3.3 Site Preparation - 2017

**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 | | | | | 0.2515 | 0.0000 | 0.2515 | 0.1336 | 0.0000 | 0.1336 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0941 | 1.0362 | 0.3890 | 8.6000e-004 | | 0.0482 | 0.0482 | | 0.0444 | 0.0444 | 0.0000 | 79.7740 | 79.7740 | 0.0244 | 0.0000 | 80.3850 |
| **Total** | **0.0941** | **1.0362** | **0.3890** | **8.6000e-004** | **0.2515** | **0.0482** | **0.2997** | **0.1336** | **0.0444** | **0.1779** | **0.0000** | **79.7740** | **79.7740** | **0.0244** | **0.0000** | **80.3850** |

## 3.3 Site Preparation - 2017

### 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 | 1.9900e-003 | 1.7200e-003 | 0.0168 | 3.0000e-005 | 3.2900e-003 | 2.0000e-005 | 3.3100e-003 | 8.7000e-004 | 2.0000e-005 | 9.0000e-004 | 0.0000 | 3.0992 | 3.0992 | 1.3000e-004 | 0.0000 | 3.1023 |
| **Total** | **1.9900e-003** | **1.7200e-003** | **0.0168** | **3.0000e-005** | **3.2900e-003** | **2.0000e-005** | **3.3100e-003** | **8.7000e-004** | **2.0000e-005** | **9.0000e-004** | **0.0000** | **3.0992** | **3.0992** | **1.3000e-004** | **0.0000** | **3.1023** |

### 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 | | | | | 0.0981 | 0.0000 | 0.0981 | 0.0521 | 0.0000 | 0.0521 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0941 | 1.0362 | 0.3890 | 8.6000e-004 | | 0.0482 | 0.0482 | | 0.0444 | 0.0444 | 0.0000 | 79.7739 | 79.7739 | 0.0244 | 0.0000 | 80.3849 |
| **Total** | **0.0941** | **1.0362** | **0.3890** | **8.6000e-004** | **0.0981** | **0.0482** | **0.1463** | **0.0521** | **0.0444** | **0.0964** | **0.0000** | **79.7739** | **79.7739** | **0.0244** | **0.0000** | **80.3849** |

## 3.3 Site Preparation - 2017

**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 | 1.9900e-003 | 1.7200e-003 | 0.0168 | 3.0000e-005 | 3.2900e-003 | 2.0000e-005 | 3.3100e-003 | 8.7000e-004 | 2.0000e-005 | 9.0000e-004 | 0.0000 | 3.0992 | 3.0992 | 1.3000e-004 | 0.0000 | 3.1023 |
| **Total** | **1.9900e-003** | **1.7200e-003** | **0.0168** | **3.0000e-005** | **3.2900e-003** | **2.0000e-005** | **3.3100e-003** | **8.7000e-004** | **2.0000e-005** | **9.0000e-004** | **0.0000** | **3.0992** | **3.0992** | **1.3000e-004** | **0.0000** | **3.1023** |

## 3.4 Grading - 2017

**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 | | | | | 0.5791 | 0.0000 | 0.5791 | 0.2088 | 0.0000 | 0.2088 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.4287 | 5.1581 | 2.8816 | 4.6000e-003 | | 0.2190 | 0.2190 | | 0.2015 | 0.2015 | 0.0000 | 426.7140 | 426.7140 | 0.1307 | 0.0000 | 429.9826 |
| **Total** | **0.4287** | **5.1581** | **2.8816** | **4.6000e-003** | **0.5791** | **0.2190** | **0.7981** | **0.2088** | **0.2015** | **0.4103** | **0.0000** | **426.7140** | **426.7140** | **0.1307** | **0.0000** | **429.9826** |

## 3.4 Grading - 2017

### 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 | 6.9300e-003 | 5.9800e-003 | 0.0584 | 1.2000e-004 | 0.0115 | 8.0000e-005 | 0.0115 | 3.0400e-003 | 8.0000e-005 | 3.1200e-003 | 0.0000 | 10.7956 | 10.7956 | 4.4000e-004 | 0.0000 | 10.8065 |
| **Total** | **6.9300e-003** | **5.9800e-003** | **0.0584** | **1.2000e-004** | **0.0115** | **8.0000e-005** | **0.0115** | **3.0400e-003** | **8.0000e-005** | **3.1200e-003** | **0.0000** | **10.7956** | **10.7956** | **4.4000e-004** | **0.0000** | **10.8065** |

### 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 | | | | | 0.2259 | 0.0000 | 0.2259 | 0.0814 | 0.0000 | 0.0814 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.4287 | 5.1581 | 2.8816 | 4.6000e-003 | | 0.2190 | 0.2190 | | 0.2015 | 0.2015 | 0.0000 | 426.7135 | 426.7135 | 0.1307 | 0.0000 | 429.9821 |
| **Total** | **0.4287** | **5.1581** | **2.8816** | **4.6000e-003** | **0.2259** | **0.2190** | **0.4449** | **0.0814** | **0.2015** | **0.2830** | **0.0000** | **426.7135** | **426.7135** | **0.1307** | **0.0000** | **429.9821** |

## 3.4 Grading - 2017

**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 | 6.9300e-003 | 5.9800e-003 | 0.0584 | 1.2000e-004 | 0.0115 | 8.0000e-005 | 0.0115 | 3.0400e-003 | 8.0000e-005 | 3.1200e-003 | 0.0000 | 10.7956 | 10.7956 | 4.4000e-004 | 0.0000 | 10.8065 |
| **Total** | **6.9300e-003** | **5.9800e-003** | **0.0584** | **1.2000e-004** | **0.0115** | **8.0000e-005** | **0.0115** | **3.0400e-003** | **8.0000e-005** | **3.1200e-003** | **0.0000** | **10.7956** | **10.7956** | **4.4000e-004** | **0.0000** | **10.8065** |

## 3.5 Building Construction - 2017

**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 | 0.0704 | 0.6014 | 0.3534 | 6.1000e-004 | | 0.0354 | 0.0354 | | 0.0335 | 0.0335 | 0.0000 | 54.4622 | 54.4622 | 0.0128 | 0.0000 | 54.7819 |
| **Total** | **0.0704** | **0.6014** | **0.3534** | **6.1000e-004** | | **0.0354** | **0.0354** | | **0.0335** | **0.0335** | **0.0000** | **54.4622** | **54.4622** | **0.0128** | **0.0000** | **54.7819** |

## 3.5 Building Construction - 2017

### 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 | 0.0206 | 0.5815 | 0.1406 | 1.1900e-003 | 0.0276 | 4.7500e-003 | 0.0323 | 7.9600e-003 | 4.5500e-003 | 0.0125 | 0.0000 | 113.7864 | 113.7864 | 8.6900e-003 | 0.0000 | 114.0036 |
| Worker | 0.0743 | 0.0641 | 0.6260 | 1.2800e-003 | 0.1229 | 9.0000e-004 | 0.1238 | 0.0326 | 8.3000e-004 | 0.0335 | 0.0000 | 115.7552 | 115.7552 | 4.6800e-003 | 0.0000 | 115.8721 |
| **Total** | **0.0948** | **0.6456** | **0.7665** | **2.4700e-003** | **0.1504** | **5.6500e-003** | **0.1561** | **0.0406** | **5.3800e-003** | **0.0460** | **0.0000** | **229.5416** | **229.5416** | **0.0134** | **0.0000** | **229.8757** |

### 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 | 0.0704 | 0.6014 | 0.3534 | 6.1000e-004 | | 0.0354 | 0.0354 | | 0.0335 | 0.0335 | 0.0000 | 54.4621 | 54.4621 | 0.0128 | 0.0000 | 54.7819 |
| **Total** | **0.0704** | **0.6014** | **0.3534** | **6.1000e-004** | | **0.0354** | **0.0354** | | **0.0335** | **0.0335** | **0.0000** | **54.4621** | **54.4621** | **0.0128** | **0.0000** | **54.7819** |

## 3.5 Building Construction - 2017

**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 | 0.0206 | 0.5815 | 0.1406 | 1.1900e-003 | 0.0276 | 4.7500e-003 | 0.0323 | 7.9600e-003 | 4.5500e-003 | 0.0125 | 0.0000 | 113.7864 | 113.7864 | 8.6900e-003 | 0.0000 | 114.0036 |
| Worker | 0.0743 | 0.0641 | 0.6260 | 1.2800e-003 | 0.1229 | 9.0000e-004 | 0.1238 | 0.0326 | 8.3000e-004 | 0.0335 | 0.0000 | 115.7552 | 115.7552 | 4.6800e-003 | 0.0000 | 115.8721 |
| **Total** | **0.0948** | **0.6456** | **0.7665** | **2.4700e-003** | **0.1504** | **5.6500e-003** | **0.1561** | **0.0406** | **5.3800e-003** | **0.0460** | **0.0000** | **229.5416** | **229.5416** | **0.0134** | **0.0000** | **229.8757** |

## 3.5 Building Construction - 2018

**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 | 0.4112 | 3.5553 | 2.2769 | 4.1600e-003 | | 0.2018 | 0.2018 | | 0.1911 | 0.1911 | 0.0000 | 365.5561 | 365.5561 | 0.0850 | 0.0000 | 367.6798 |
| **Total** | **0.4112** | **3.5553** | **2.2769** | **4.1600e-003** | | **0.2018** | **0.2018** | | **0.1911** | **0.1911** | **0.0000** | **365.5561** | **365.5561** | **0.0850** | **0.0000** | **367.6798** |

## 3.5 Building Construction - 2018

### 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 | 0.1217 | 3.6915 | 0.8387 | 8.0600e-003 | 0.1869 | 0.0254 | 0.2123 | 0.0540 | 0.0243 | 0.0782 | 0.0000 | 769.8933 | 769.8933 | 0.0561 | 0.0000 | 771.2963 |
| Worker | 0.4485 | 0.3780 | 3.6994 | 8.4500e-003 | 0.8327 | 5.9000e-003 | 0.8386 | 0.2212 | 5.4300e-003 | 0.2266 | 0.0000 | 762.6587 | 762.6587 | 0.0277 | 0.0000 | 763.3520 |
| **Total** | **0.5701** | **4.0694** | **4.5381** | **0.0165** | **1.0196** | **0.0313** | **1.0509** | **0.2751** | **0.0297** | **0.3048** | **0.0000** | **1,532.5520** | **1,532.5520** | **0.0839** | **0.0000** | **1,534.6483** |

### 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 | 0.4112 | 3.5553 | 2.2769 | 4.1600e-003 | | 0.2018 | 0.2018 | | 0.1911 | 0.1911 | 0.0000 | 365.5557 | 365.5557 | 0.0850 | 0.0000 | 367.6794 |
| **Total** | **0.4112** | **3.5553** | **2.2769** | **4.1600e-003** | | **0.2018** | **0.2018** | | **0.1911** | **0.1911** | **0.0000** | **365.5557** | **365.5557** | **0.0850** | **0.0000** | **367.6794** |

## 3.5 Building Construction - 2018

**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 | 0.1217 | 3.6915 | 0.8387 | 8.0600e-003 | 0.1869 | 0.0254 | 0.2123 | 0.0540 | 0.0243 | 0.0782 | 0.0000 | 769.8933 | 769.8933 | 0.0561 | 0.0000 | 771.2963 |
| Worker | 0.4485 | 0.3780 | 3.6994 | 8.4500e-003 | 0.8327 | 5.9000e-003 | 0.8386 | 0.2212 | 5.4300e-003 | 0.2266 | 0.0000 | 762.6587 | 762.6587 | 0.0277 | 0.0000 | 763.3520 |
| **Total** | **0.5701** | **4.0694** | **4.5381** | **0.0165** | **1.0196** | **0.0313** | **1.0509** | **0.2751** | **0.0297** | **0.3048** | **0.0000** | **1,532.5520** | **1,532.5520** | **0.0839** | **0.0000** | **1,534.6483** |

## 3.6 Architectural Coating - 2018

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.8368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1337 | 0.1236 | 2.0000e-004 | | 0.0100 | 0.0100 | | 0.0100 | 0.0100 | 0.0000 | 17.0217 | 17.0217 | 1.6200e-003 | 0.0000 | 17.0622 |
| **Total** | **0.8567** | **0.1337** | **0.1236** | **2.0000e-004** | | **0.0100** | **0.0100** | | **0.0100** | **0.0100** | **0.0000** | **17.0217** | **17.0217** | **1.6200e-003** | **0.0000** | **17.0622** |

## 3.6 Architectural Coating - 2018

### 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 | 0.0245 | 0.0207 | 0.2022 | 4.6000e-004 | 0.0455 | 3.2000e-004 | 0.0458 | 0.0121 | 3.0000e-004 | 0.0124 | 0.0000 | 41.6753 | 41.6753 | 1.5200e-003 | 0.0000 | 41.7132 |
| **Total** | **0.0245** | **0.0207** | **0.2022** | **4.6000e-004** | **0.0455** | **3.2000e-004** | **0.0458** | **0.0121** | **3.0000e-004** | **0.0124** | **0.0000** | **41.6753** | **41.6753** | **1.5200e-003** | **0.0000** | **41.7132** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.8368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1337 | 0.1236 | 2.0000e-004 | | 0.0100 | 0.0100 | | 0.0100 | 0.0100 | 0.0000 | 17.0217 | 17.0217 | 1.6200e-003 | 0.0000 | 17.0621 |
| **Total** | **0.8567** | **0.1337** | **0.1236** | **2.0000e-004** | | **0.0100** | **0.0100** | | **0.0100** | **0.0100** | **0.0000** | **17.0217** | **17.0217** | **1.6200e-003** | **0.0000** | **17.0621** |

## 3.6 Architectural Coating - 2018

**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 | 0.0245 | 0.0207 | 0.2022 | 4.6000e-004 | 0.0455 | 3.2000e-004 | 0.0458 | 0.0121 | 3.0000e-004 | 0.0124 | 0.0000 | 41.6753 | 41.6753 | 1.5200e-003 | 0.0000 | 41.7132 |
| **Total** | **0.0245** | **0.0207** | **0.2022** | **4.6000e-004** | **0.0455** | **3.2000e-004** | **0.0458** | **0.0121** | **3.0000e-004** | **0.0124** | **0.0000** | **41.6753** | **41.6753** | **1.5200e-003** | **0.0000** | **41.7132** |

## 3.7 Paving - 2018

**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 | 0.0221 | 0.2327 | 0.1737 | 3.1000e-004 | | 0.0119 | 0.0119 | | 0.0110 | 0.0110 | 0.0000 | 28.1847 | 28.1847 | 8.7700e-003 | 0.0000 | 28.4040 |
| Paving | 0.0268 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0490** | **0.2327** | **0.1737** | **3.1000e-004** | | **0.0119** | **0.0119** | | **0.0110** | **0.0110** | **0.0000** | **28.1847** | **28.1847** | **8.7700e-003** | **0.0000** | **28.4040** |

## 3.7 Paving - 2018

### 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 | 1.0600e-003 | 9.0000e-004 | 8.7700e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9900e-003 | 5.2000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.8076 | 1.8076 | 7.0000e-005 | 0.0000 | 1.8093 |
| **Total** | **1.0600e-003** | **9.0000e-004** | **8.7700e-003** | **2.0000e-005** | **1.9700e-003** | **1.0000e-005** | **1.9900e-003** | **5.2000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.8076** | **1.8076** | **7.0000e-005** | **0.0000** | **1.8093** |

### 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 | 0.0221 | 0.2327 | 0.1737 | 3.1000e-004 | | 0.0119 | 0.0119 | | 0.0110 | 0.0110 | 0.0000 | 28.1846 | 28.1846 | 8.7700e-003 | 0.0000 | 28.4040 |
| Paving | 0.0268 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0490** | **0.2327** | **0.1737** | **3.1000e-004** | | **0.0119** | **0.0119** | | **0.0110** | **0.0110** | **0.0000** | **28.1846** | **28.1846** | **8.7700e-003** | **0.0000** | **28.4040** |

### 3.7 Paving - 2018

**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 | 1.0600e-003 | 9.0000e-004 | 8.7700e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9900e-003 | 5.2000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.8076 | 1.8076 | 7.0000e-005 | 0.0000 | 1.8093 |
| **Total** | **1.0600e-003** | **9.0000e-004** | **8.7700e-003** | **2.0000e-005** | **1.9700e-003** | **1.0000e-005** | **1.9900e-003** | **5.2000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.8076** | **1.8076** | **7.0000e-005** | **0.0000** | **1.8093** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |
| Parking Lot | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

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

**Mitigated**

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

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Unmitigated | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

### 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

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

### 7.2 Water by Land Use

**Mitigated**

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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

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

## 8.2 Waste by Land Use

**Unmitigated**

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

**Mitigated**

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

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Building 4 Construction- Mitigated

**San Bernardino-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 1,064.88 | 1000sqft | 41.55 | 1,064,880.00 | 0 |
| Parking Lot | 2,277.00 | Space | 20.49 | 910,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2018 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 497.64 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Building 4 Construction- Mitigated - San Bernardino-South Coast County, Annual

Project Characteristics - CPUC GHG Calculator version 3c, worksheet tab "CO2 Allocations," cells AH/AQ 35-44.

Land Use - Total lot acreage: 62.04; A trailer parking space required significantly more space than one regular parking space. Therefore, for analysis purposes, 1 trailer parking=3.27 parking spaces

Construction Phase - Based on 2018 opening year and past project experience

Off-road Equipment - Based on information provided by the project engineer

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Off-road Equipment - Off-highway trucks= water trucks

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Off-road Equipment - Off-highway trucks= water trucks

Off-road Equipment - Based on information provided by the Project engineer; off-highway truck= water truck

Trips and VMT -

Demolition -

Grading -

Architectural Coating - Based on Rule 1113 and information provided by the Project engineer

Vehicle Trips - Construction only

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Construction only

Consumer Products - Construction only

Area Coating - Construction only

Landscape Equipment - Construction only

Energy Use - Construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Construction Off-road Equipment Mitigation - During site preparation and grading activity, all graders, scrapers, and rubber tired dozers shall be CARB certified tier 3 or higher

Building 4 Construction- Mitigated - San Bernardino-South Coast County, Annual

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 532,440.00 | 202,500.00 |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,597,320.00 | 207,820.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 40 | 0 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 5.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 8.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstructionPhase | NumDays | 75.00 | 50.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 210.00 |
| tblConstructionPhase | NumDays | 70.00 | 30.00 |
| tblConstructionPhase | NumDays | 110.00 | 55.00 |
| tblConstructionPhase | NumDays | 75.00 | 20.00 |
| tblConsumerProducts | ROG_EF | 1.98E-05 | 0 |
| tblConsumerProducts | ROG_EF_Degreaser | 3.542E-07 | 1E-10 |
| tblConsumerProducts | ROG_EF_PesticidesFertilizers | 5.152E-08 | 1E-10 |
| tblEnergyUse | LightingElect | 0.88 | 0.00 |
| tblEnergyUse | LightingElect | 1.20 | 0.00 |
| tblEnergyUse | NT24E | 0.82 | 0.00 |
| tblEnergyUse | NT24NG | 0.03 | 0.00 |
| tblEnergyUse | T24E | 0.39 | 0.00 |
| tblEnergyUse | T24NG | 2.02 | 0.00 |
| tblLandscapeEquipment | NumberSummerDays | 250 | 0.1 |

Building 4 Construction- Mitigated - San Bernardino-South Coast County, Annual

| | | | |
|---|---|---|---|
| tblLandUse | LotAcreage | 24.45 | 41.55 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | HorsePower | 402.00 | 189.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 5.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 497.64 |

| | | | |
|---|---|---|---|
| tblRoadDust | RoadPercentPave | 100 | 0 |
| tblSolidWaste | SolidWasteGenerationRate | 1,000.99 | 0.00 |
| tblVehicleTrips | ST_TR | 1.68 | 0.00 |
| tblVehicleTrips | SU_TR | 1.68 | 0.00 |
| tblVehicleTrips | WD_TR | 1.68 | 0.00 |
| tblWater | IndoorWaterUseRate | 246,253,500.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.7412 | 7.8948 | 4.6954 | 9.1700e-003 | 1.0068 | 0.3305 | 1.3373 | 0.3888 | 0.3056 | 0.6944 | 0.0000 | 847.3769 | 847.3769 | 0.1921 | 0.0000 | 852.1804 |
| 2018 | 1.9126 | 8.0127 | 7.3233 | 0.0217 | 1.0671 | 0.2553 | 1.3224 | 0.2877 | 0.2422 | 0.5299 | 0.0000 | 1,986.7974 | 1,986.7974 | 0.1808 | 0.0000 | 1,991.3168 |
| **Maximum** | **1.9126** | **8.0127** | **7.3233** | **0.0217** | **1.0671** | **0.3305** | **1.3373** | **0.3888** | **0.3056** | **0.6944** | **0.0000** | **1,986.7974** | **1,986.7974** | **0.1921** | **0.0000** | **1,991.3168** |

### 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 | | | | | |
| 2017 | 0.4025 | 4.5994 | 4.2550 | 9.1700e-003 | 0.4948 | 0.1832 | 0.6780 | 0.1792 | 0.1766 | 0.3558 | 0.0000 | 847.3762 | 847.3762 | 0.1921 | 0.0000 | 852.1797 |
| 2018 | 1.9126 | 8.0127 | 7.3233 | 0.0217 | 1.0671 | 0.2553 | 1.3224 | 0.2877 | 0.2422 | 0.5299 | 0.0000 | 1,986.7970 | 1,986.7970 | 0.1808 | 0.0000 | 1,991.3163 |
| **Maximum** | **1.9126** | **8.0127** | **7.3233** | **0.0217** | **1.0671** | **0.2553** | **1.3224** | **0.2877** | **0.2422** | **0.5299** | **0.0000** | **1,986.7970** | **1,986.7970** | **0.1921** | **0.0000** | **1,991.3163** |

| | ROG | NOx | 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** | **12.76** | **20.72** | **3.66** | **0.00** | **24.69** | **25.15** | **24.79** | **30.99** | **23.54** | **27.66** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 6-1-2017 | 8-31-2017 | 1.5022 | 0.8934 |
| 2 | 9-1-2017 | 11-30-2017 | 6.0189 | 2.9936 |
| 3 | 12-1-2017 | 2-28-2018 | 3.1244 | 3.1244 |
| 4 | 3-1-2018 | 5-31-2018 | 3.0732 | 3.0732 |
| 5 | 6-1-2018 | 8-31-2018 | 3.0723 | 3.0723 |
| 6 | 9-1-2018 | 9-30-2018 | 0.6672 | 0.6672 |
| | | Highest | 6.0189 | 3.1244 |

## 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

## 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

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

## 3.0 Construction Detail

**Construction Phase**

Building 4 Construction- Mitigated - San Bernardino-South Coast County, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Demolition | Demolition | 6/1/2017 | 7/12/2017 | 5 | 30 | |
| 2 | Site Preparation | Site Preparation | 7/13/2017 | 9/6/2017 | 5 | 40 | |
| 3 | Grading | Grading | 9/7/2017 | 11/22/2017 | 5 | 55 | |
| 4 | Building Construction | Building Construction | 11/23/2017 | 9/12/2018 | 5 | 210 | |
| 5 | Architectural Coating | Architectural Coating | 9/13/2018 | 11/21/2018 | 5 | 50 | |
| 6 | Paving | Paving | 11/22/2018 | 12/19/2018 | 5 | 20 | |

**Acres of Grading (Site Preparation Phase): 20**

**Acres of Grading (Grading Phase): 467.5**

**Acres of Paving: 20.49**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 207,820; Non-Residential Outdoor: 202,500; Striped Parking Area: 54,648 (Architectural Coating – sqft)**

**OffRoad Equipment**

Building 4 Construction- Mitigated - San Bernardino-South Coast County, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Excavators | 1 | 8.00 | 158 | 0.38 |
| Demolition | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Off-Highway Trucks | 2 | 8.00 | 189 | 0.50 |
| Site Preparation | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 0 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 189 | 0.50 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 8 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 5 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Building Construction | Tractors/Loaders/Backhoes | 0 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 8.00 | 78 | 0.48 |
| Paving | Off-Highway Trucks | 1 | 8.00 | 189 | 0.50 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Demolition | 4 | 10.00 | 0.00 | 80.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 15 | 38.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 12 | 830.00 | 324.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 166.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 7 | 18.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

## 3.2 Demolition - 2017

**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 | | | | | 8.6500e-003 | 0.0000 | 8.6500e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0429 | 0.4324 | 0.2195 | 4.2000e-004 | | 0.0220 | 0.0220 | | 0.0206 | 0.0206 | 0.0000 | 38.3630 | 38.3630 | 9.9900e-003 | 0.0000 | 38.6128 |
| **Total** | **0.0429** | **0.4324** | **0.2195** | **4.2000e-004** | **8.6500e-003** | **0.0220** | **0.0307** | **1.3100e-003** | **0.0206** | **0.0219** | **0.0000** | **38.3630** | **38.3630** | **9.9900e-003** | **0.0000** | **38.6128** |

## 3.2 Demolition - 2017

### 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 | 3.3000e-004 | 0.0126 | 1.8900e-003 | 3.0000e-005 | 6.9000e-004 | 6.0000e-005 | 7.5000e-004 | 1.9000e-004 | 6.0000e-005 | 2.5000e-004 | 0.0000 | 3.0778 | 3.0778 | 1.8000e-004 | 0.0000 | 3.0824 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 8.6000e-004 | 8.3800e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.5496 | 1.5496 | 6.0000e-005 | 0.0000 | 1.5512 |
| **Total** | **1.3200e-003** | **0.0134** | **0.0103** | **5.0000e-005** | **2.3300e-003** | **7.0000e-005** | **2.4100e-003** | **6.3000e-004** | **7.0000e-005** | **7.0000e-004** | **0.0000** | **4.6274** | **4.6274** | **2.4000e-004** | **0.0000** | **4.6335** |

### 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 | | | | | 3.3700e-003 | 0.0000 | 3.3700e-003 | 5.1000e-004 | 0.0000 | 5.1000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0276 | 0.2925 | 0.2181 | 4.2000e-004 | | 0.0145 | 0.0145 | | 0.0139 | 0.0139 | 0.0000 | 38.3629 | 38.3629 | 9.9900e-003 | 0.0000 | 38.6127 |
| **Total** | **0.0276** | **0.2925** | **0.2181** | **4.2000e-004** | **3.3700e-003** | **0.0145** | **0.0179** | **5.1000e-004** | **0.0139** | **0.0144** | **0.0000** | **38.3629** | **38.3629** | **9.9900e-003** | **0.0000** | **38.6127** |

## 3.2 Demolition - 2017

**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 | 3.3000e-004 | 0.0126 | 1.8900e-003 | 3.0000e-005 | 6.9000e-004 | 6.0000e-005 | 7.5000e-004 | 1.9000e-004 | 6.0000e-005 | 2.5000e-004 | 0.0000 | 3.0778 | 3.0778 | 1.8000e-004 | 0.0000 | 3.0824 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 8.6000e-004 | 8.3800e-003 | 2.0000e-005 | 1.6400e-003 | 1.0000e-005 | 1.6600e-003 | 4.4000e-004 | 1.0000e-005 | 4.5000e-004 | 0.0000 | 1.5496 | 1.5496 | 6.0000e-005 | 0.0000 | 1.5512 |
| **Total** | **1.3200e-003** | **0.0134** | **0.0103** | **5.0000e-005** | **2.3300e-003** | **7.0000e-005** | **2.4100e-003** | **6.3000e-004** | **7.0000e-005** | **7.0000e-004** | **0.0000** | **4.6274** | **4.6274** | **2.4000e-004** | **0.0000** | **4.6335** |

## 3.3 Site Preparation - 2017

**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 | | | | | 0.2515 | 0.0000 | 0.2515 | 0.1336 | 0.0000 | 0.1336 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0941 | 1.0362 | 0.3890 | 8.6000e-004 | | 0.0482 | 0.0482 | | 0.0444 | 0.0444 | 0.0000 | 79.7740 | 79.7740 | 0.0244 | 0.0000 | 80.3850 |
| **Total** | **0.0941** | **1.0362** | **0.3890** | **8.6000e-004** | **0.2515** | **0.0482** | **0.2997** | **0.1336** | **0.0444** | **0.1779** | **0.0000** | **79.7740** | **79.7740** | **0.0244** | **0.0000** | **80.3850** |

## 3.3 Site Preparation - 2017

### 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 | 1.9900e-003 | 1.7200e-003 | 0.0168 | 3.0000e-005 | 3.2900e-003 | 2.0000e-005 | 3.3100e-003 | 8.7000e-004 | 2.0000e-005 | 9.0000e-004 | 0.0000 | 3.0992 | 3.0992 | 1.3000e-004 | 0.0000 | 3.1023 |
| **Total** | **1.9900e-003** | **1.7200e-003** | **0.0168** | **3.0000e-005** | **3.2900e-003** | **2.0000e-005** | **3.3100e-003** | **8.7000e-004** | **2.0000e-005** | **9.0000e-004** | **0.0000** | **3.0992** | **3.0992** | **1.3000e-004** | **0.0000** | **3.1023** |

### 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 | | | | | 0.0981 | 0.0000 | 0.0981 | 0.0521 | 0.0000 | 0.0521 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0458 | 0.5765 | 0.4163 | 8.6000e-004 | | 0.0257 | 0.0257 | | 0.0243 | 0.0243 | 0.0000 | 79.7739 | 79.7739 | 0.0244 | 0.0000 | 80.3849 |
| **Total** | **0.0458** | **0.5765** | **0.4163** | **8.6000e-004** | **0.0981** | **0.0257** | **0.1238** | **0.0521** | **0.0243** | **0.0764** | **0.0000** | **79.7739** | **79.7739** | **0.0244** | **0.0000** | **80.3849** |

## 3.3 Site Preparation - 2017

**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 | 1.9900e-003 | 1.7200e-003 | 0.0168 | 3.0000e-005 | 3.2900e-003 | 2.0000e-005 | 3.3100e-003 | 8.7000e-004 | 2.0000e-005 | 9.0000e-004 | 0.0000 | 3.0992 | 3.0992 | 1.3000e-004 | 0.0000 | 3.1023 |
| **Total** | **1.9900e-003** | **1.7200e-003** | **0.0168** | **3.0000e-005** | **3.2900e-003** | **2.0000e-005** | **3.3100e-003** | **8.7000e-004** | **2.0000e-005** | **9.0000e-004** | **0.0000** | **3.0992** | **3.0992** | **1.3000e-004** | **0.0000** | **3.1023** |

## 3.4 Grading - 2017

**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 | | | | | 0.5791 | 0.0000 | 0.5791 | 0.2088 | 0.0000 | 0.2088 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.4287 | 5.1581 | 2.8816 | 4.6000e-003 | | 0.2190 | 0.2190 | | 0.2015 | 0.2015 | 0.0000 | 426.7140 | 426.7140 | 0.1307 | 0.0000 | 429.9826 |
| **Total** | **0.4287** | **5.1581** | **2.8816** | **4.6000e-003** | **0.5791** | **0.2190** | **0.7981** | **0.2088** | **0.2015** | **0.4103** | **0.0000** | **426.7140** | **426.7140** | **0.1307** | **0.0000** | **429.9826** |

## 3.4 Grading - 2017

### 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 | 6.9300e-003 | 5.9800e-003 | 0.0584 | 1.2000e-004 | 0.0115 | 8.0000e-005 | 0.0115 | 3.0400e-003 | 8.0000e-005 | 3.1200e-003 | 0.0000 | 10.7956 | 10.7956 | 4.4000e-004 | 0.0000 | 10.8065 |
| **Total** | **6.9300e-003** | **5.9800e-003** | **0.0584** | **1.2000e-004** | **0.0115** | **8.0000e-005** | **0.0115** | **3.0400e-003** | **8.0000e-005** | **3.1200e-003** | **0.0000** | **10.7956** | **10.7956** | **4.4000e-004** | **0.0000** | **10.8065** |

### 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 | | | | | 0.2259 | 0.0000 | 0.2259 | 0.0814 | 0.0000 | 0.0814 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1537 | 2.4622 | 2.4154 | 4.6000e-003 | | 0.1018 | 0.1018 | | 0.0994 | 0.0994 | 0.0000 | 426.7135 | 426.7135 | 0.1307 | 0.0000 | 429.9821 |
| **Total** | **0.1537** | **2.4622** | **2.4154** | **4.6000e-003** | **0.2259** | **0.1018** | **0.3276** | **0.0814** | **0.0994** | **0.1808** | **0.0000** | **426.7135** | **426.7135** | **0.1307** | **0.0000** | **429.9821** |

## 3.4 Grading - 2017

**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 | 6.9300e-003 | 5.9800e-003 | 0.0584 | 1.2000e-004 | 0.0115 | 8.0000e-005 | 0.0115 | 3.0400e-003 | 8.0000e-005 | 3.1200e-003 | 0.0000 | 10.7956 | 10.7956 | 4.4000e-004 | 0.0000 | 10.8065 |
| **Total** | **6.9300e-003** | **5.9800e-003** | **0.0584** | **1.2000e-004** | **0.0115** | **8.0000e-005** | **0.0115** | **3.0400e-003** | **8.0000e-005** | **3.1200e-003** | **0.0000** | **10.7956** | **10.7956** | **4.4000e-004** | **0.0000** | **10.8065** |

## 3.5 Building Construction - 2017

**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 | 0.0704 | 0.6014 | 0.3534 | 6.1000e-004 | | 0.0354 | 0.0354 | | 0.0335 | 0.0335 | 0.0000 | 54.4622 | 54.4622 | 0.0128 | 0.0000 | 54.7819 |
| **Total** | **0.0704** | **0.6014** | **0.3534** | **6.1000e-004** | | **0.0354** | **0.0354** | | **0.0335** | **0.0335** | **0.0000** | **54.4622** | **54.4622** | **0.0128** | **0.0000** | **54.7819** |

## 3.5 Building Construction - 2017

### 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 | 0.0206 | 0.5815 | 0.1406 | 1.1900e-003 | 0.0276 | 4.7500e-003 | 0.0323 | 7.9600e-003 | 4.5500e-003 | 0.0125 | 0.0000 | 113.7864 | 113.7864 | 8.6900e-003 | 0.0000 | 114.0036 |
| Worker | 0.0743 | 0.0641 | 0.6260 | 1.2800e-003 | 0.1229 | 9.0000e-004 | 0.1238 | 0.0326 | 8.3000e-004 | 0.0335 | 0.0000 | 115.7552 | 115.7552 | 4.6800e-003 | 0.0000 | 115.8721 |
| **Total** | **0.0948** | **0.6456** | **0.7665** | **2.4700e-003** | **0.1504** | **5.6500e-003** | **0.1561** | **0.0406** | **5.3800e-003** | **0.0460** | **0.0000** | **229.5416** | **229.5416** | **0.0134** | **0.0000** | **229.8757** |

### 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 | 0.0704 | 0.6014 | 0.3534 | 6.1000e-004 | | 0.0354 | 0.0354 | | 0.0335 | 0.0335 | 0.0000 | 54.4621 | 54.4621 | 0.0128 | 0.0000 | 54.7819 |
| **Total** | **0.0704** | **0.6014** | **0.3534** | **6.1000e-004** | | **0.0354** | **0.0354** | | **0.0335** | **0.0335** | **0.0000** | **54.4621** | **54.4621** | **0.0128** | **0.0000** | **54.7819** |

## 3.5 Building Construction - 2017

**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 | 0.0206 | 0.5815 | 0.1406 | 1.1900e-003 | 0.0276 | 4.7500e-003 | 0.0323 | 7.9600e-003 | 4.5500e-003 | 0.0125 | 0.0000 | 113.7864 | 113.7864 | 8.6900e-003 | 0.0000 | 114.0036 |
| Worker | 0.0743 | 0.0641 | 0.6260 | 1.2800e-003 | 0.1229 | 9.0000e-004 | 0.1238 | 0.0326 | 8.3000e-004 | 0.0335 | 0.0000 | 115.7552 | 115.7552 | 4.6800e-003 | 0.0000 | 115.8721 |
| **Total** | **0.0948** | **0.6456** | **0.7665** | **2.4700e-003** | **0.1504** | **5.6500e-003** | **0.1561** | **0.0406** | **5.3800e-003** | **0.0460** | **0.0000** | **229.5416** | **229.5416** | **0.0134** | **0.0000** | **229.8757** |

## 3.5 Building Construction - 2018

**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 | 0.4112 | 3.5553 | 2.2769 | 4.1600e-003 | | 0.2018 | 0.2018 | | 0.1911 | 0.1911 | 0.0000 | 365.5561 | 365.5561 | 0.0850 | 0.0000 | 367.6798 |
| **Total** | **0.4112** | **3.5553** | **2.2769** | **4.1600e-003** | | **0.2018** | **0.2018** | | **0.1911** | **0.1911** | **0.0000** | **365.5561** | **365.5561** | **0.0850** | **0.0000** | **367.6798** |

## 3.5 Building Construction - 2018

### 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 | 0.1217 | 3.6915 | 0.8387 | 8.0600e-003 | 0.1869 | 0.0254 | 0.2123 | 0.0540 | 0.0243 | 0.0782 | 0.0000 | 769.8933 | 769.8933 | 0.0561 | 0.0000 | 771.2963 |
| Worker | 0.4485 | 0.3780 | 3.6994 | 8.4500e-003 | 0.8327 | 5.9000e-003 | 0.8386 | 0.2212 | 5.4300e-003 | 0.2266 | 0.0000 | 762.6587 | 762.6587 | 0.0277 | 0.0000 | 763.3520 |
| **Total** | **0.5701** | **4.0694** | **4.5381** | **0.0165** | **1.0196** | **0.0313** | **1.0509** | **0.2751** | **0.0297** | **0.3048** | **0.0000** | **1,532.5520** | **1,532.5520** | **0.0839** | **0.0000** | **1,534.6483** |

### 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 | 0.4112 | 3.5553 | 2.2769 | 4.1600e-003 | | 0.2018 | 0.2018 | | 0.1911 | 0.1911 | 0.0000 | 365.5557 | 365.5557 | 0.0850 | 0.0000 | 367.6794 |
| **Total** | **0.4112** | **3.5553** | **2.2769** | **4.1600e-003** | | **0.2018** | **0.2018** | | **0.1911** | **0.1911** | **0.0000** | **365.5557** | **365.5557** | **0.0850** | **0.0000** | **367.6794** |

## 3.5 Building Construction - 2018

**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 | 0.1217 | 3.6915 | 0.8387 | 8.0600e-003 | 0.1869 | 0.0254 | 0.2123 | 0.0540 | 0.0243 | 0.0782 | 0.0000 | 769.8933 | 769.8933 | 0.0561 | 0.0000 | 771.2963 |
| Worker | 0.4485 | 0.3780 | 3.6994 | 8.4500e-003 | 0.8327 | 5.9000e-003 | 0.8386 | 0.2212 | 5.4300e-003 | 0.2266 | 0.0000 | 762.6587 | 762.6587 | 0.0277 | 0.0000 | 763.3520 |
| **Total** | **0.5701** | **4.0694** | **4.5381** | **0.0165** | **1.0196** | **0.0313** | **1.0509** | **0.2751** | **0.0297** | **0.3048** | **0.0000** | **1,532.5520** | **1,532.5520** | **0.0839** | **0.0000** | **1,534.6483** |

## 3.6 Architectural Coating - 2018

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.8368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1337 | 0.1236 | 2.0000e-004 | | 0.0100 | 0.0100 | | 0.0100 | 0.0100 | 0.0000 | 17.0217 | 17.0217 | 1.6200e-003 | 0.0000 | 17.0622 |
| **Total** | **0.8567** | **0.1337** | **0.1236** | **2.0000e-004** | | **0.0100** | **0.0100** | | **0.0100** | **0.0100** | **0.0000** | **17.0217** | **17.0217** | **1.6200e-003** | **0.0000** | **17.0622** |

## 3.6 Architectural Coating - 2018

### 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 | 0.0245 | 0.0207 | 0.2022 | 4.6000e-004 | 0.0455 | 3.2000e-004 | 0.0458 | 0.0121 | 3.0000e-004 | 0.0124 | 0.0000 | 41.6753 | 41.6753 | 1.5200e-003 | 0.0000 | 41.7132 |
| **Total** | **0.0245** | **0.0207** | **0.2022** | **4.6000e-004** | **0.0455** | **3.2000e-004** | **0.0458** | **0.0121** | **3.0000e-004** | **0.0124** | **0.0000** | **41.6753** | **41.6753** | **1.5200e-003** | **0.0000** | **41.7132** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.8368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1337 | 0.1236 | 2.0000e-004 | | 0.0100 | 0.0100 | | 0.0100 | 0.0100 | 0.0000 | 17.0217 | 17.0217 | 1.6200e-003 | 0.0000 | 17.0621 |
| **Total** | **0.8567** | **0.1337** | **0.1236** | **2.0000e-004** | | **0.0100** | **0.0100** | | **0.0100** | **0.0100** | **0.0000** | **17.0217** | **17.0217** | **1.6200e-003** | **0.0000** | **17.0621** |

## 3.6 Architectural Coating - 2018

**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 | 0.0245 | 0.0207 | 0.2022 | 4.6000e-004 | 0.0455 | 3.2000e-004 | 0.0458 | 0.0121 | 3.0000e-004 | 0.0124 | 0.0000 | 41.6753 | 41.6753 | 1.5200e-003 | 0.0000 | 41.7132 |
| **Total** | **0.0245** | **0.0207** | **0.2022** | **4.6000e-004** | **0.0455** | **3.2000e-004** | **0.0458** | **0.0121** | **3.0000e-004** | **0.0124** | **0.0000** | **41.6753** | **41.6753** | **1.5200e-003** | **0.0000** | **41.7132** |

## 3.7 Paving - 2018

**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 | 0.0221 | 0.2327 | 0.1737 | 3.1000e-004 | | 0.0119 | 0.0119 | | 0.0110 | 0.0110 | 0.0000 | 28.1847 | 28.1847 | 8.7700e-003 | 0.0000 | 28.4040 |
| Paving | 0.0268 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0490** | **0.2327** | **0.1737** | **3.1000e-004** | | **0.0119** | **0.0119** | | **0.0110** | **0.0110** | **0.0000** | **28.1847** | **28.1847** | **8.7700e-003** | **0.0000** | **28.4040** |

## 3.7 Paving - 2018

### 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 | 1.0600e-003 | 9.0000e-004 | 8.7700e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9900e-003 | 5.2000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.8076 | 1.8076 | 7.0000e-005 | 0.0000 | 1.8093 |
| **Total** | **1.0600e-003** | **9.0000e-004** | **8.7700e-003** | **2.0000e-005** | **1.9700e-003** | **1.0000e-005** | **1.9900e-003** | **5.2000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.8076** | **1.8076** | **7.0000e-005** | **0.0000** | **1.8093** |

### 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 | 0.0221 | 0.2327 | 0.1737 | 3.1000e-004 | | 0.0119 | 0.0119 | | 0.0110 | 0.0110 | 0.0000 | 28.1846 | 28.1846 | 8.7700e-003 | 0.0000 | 28.4040 |
| Paving | 0.0268 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0490** | **0.2327** | **0.1737** | **3.1000e-004** | | **0.0119** | **0.0119** | | **0.0110** | **0.0110** | **0.0000** | **28.1846** | **28.1846** | **8.7700e-003** | **0.0000** | **28.4040** |

### 3.7 Paving - 2018

**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 | 1.0600e-003 | 9.0000e-004 | 8.7700e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9900e-003 | 5.2000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.8076 | 1.8076 | 7.0000e-005 | 0.0000 | 1.8093 |
| **Total** | **1.0600e-003** | **9.0000e-004** | **8.7700e-003** | **2.0000e-005** | **1.9700e-003** | **1.0000e-005** | **1.9900e-003** | **5.2000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.8076** | **1.8076** | **7.0000e-005** | **0.0000** | **1.8093** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |
| Parking Lot | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

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

**Mitigated**

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

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive 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 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| Unmitigated | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

### 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0000 | 4.0000e-005 |
| **Total** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0000** | **4.0000e-005** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

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

### 7.2 Water by Land Use

**Mitigated**

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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

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

## 8.2 Waste by Land Use

**Unmitigated**

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

**Mitigated**

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

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Building 4 Operations Passenger Cars

**San Bernardino-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 1,064.88 | 1000sqft | 41.55 | 1,064,880.00 | 0 |
| Parking Lot | 2,277.00 | Space | 20.49 | 910,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2018 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 497.64 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Building 4 Operations Passenger Cars - San Bernardino-South Coast County, Annual

Project Characteristics - CPUC GHG Calculator version 3c, worksheet tab "CO2 Allocations," cells AH/AQ 35-44.

Land Use - Total lot acreage: 62.04; A trailer parking space requires significantly more space than one regular parking space. Therefore, for analysis purposes, 1 trailer parking=3.27 spaces

Construction Phase - Operation only

Off-road Equipment -

Off-road Equipment - Operation only

On-road Fugitive Dust - Operation only

Vehicle Trips - Based on traffic study and ITE Trip Generation Manual, 9th Edition

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Based on information provided by the Project engineer

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Fleet Mix - Passenger Cars only

Operational Off-Road Equipment - All yard trucks are non-diesel

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | Area_Nonresidential_Exterior | 532440 | 202500 |
| tblAreaCoating | Area_Nonresidential_Interior | 1597320 | 207820 |
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0 | 0.5 |
| tblConstructionPhase | NumDays | 40.00 | 1.00 |
| tblEnergyUse | T24E | 0.39 | 0.37 |
| tblEnergyUse | T24NG | 2.02 | 1.92 |
| tblFleetMix | FleetMixLandUseSubType | Unrefrigerated Warehouse-No Rail | Parking Lot |
| tblFleetMix | FleetMixLandUseSubType | Parking Lot | Unrefrigerated Warehouse-No Rail |
| tblFleetMix | HHD | 0.06 | 0.00 |
| tblFleetMix | LDA | 0.54 | 1.00 |

Building 4 Operations Passenger Cars - San Bernardino-South Coast County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | LDT1 | 0.04 | 0.00 |
| tblFleetMix | LDT2 | 0.18 | 0.00 |
| tblFleetMix | LHD1 | 0.02 | 0.00 |
| tblFleetMix | LHD2 | 5.9060e-003 | 0.00 |
| tblFleetMix | MCY | 6.3790e-003 | 0.00 |
| tblFleetMix | MDV | 0.13 | 0.00 |
| tblFleetMix | MH | 1.2510e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.3150e-003 | 0.00 |
| tblFleetMix | SBUS | 8.2900e-004 | 0.00 |
| tblFleetMix | UBUS | 1.7780e-003 | 0.00 |
| tblLandUse | LotAcreage | 24.45 | 41.55 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 0.00 |
| tblOnRoadDust | HaulingPercentPave | 100.00 | 0.00 |
| tblOnRoadDust | VendorPercentPave | 100.00 | 0.00 |
| tblOnRoadDust | WorkerPercentPave | 100.00 | 0.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperHorsePower | 97.00 | 200.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 4.00 |
| tblOperationalOffRoadEquipment | OperLoadFactor | 0.37 | 0.37 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 497.64 |
| tblVehicleTrips | CNW_TTP | 41.00 | 0.00 |
| tblVehicleTrips | CW_TTP | 59.00 | 100.00 |
| tblVehicleTrips | DV_TP | 5.00 | 0.00 |

| | | | |
|---|---|---|---|
| tblVehicleTrips | PB_TP | 3.00 | 0.00 |
| tblVehicleTrips | PR_TP | 92.00 | 100.00 |
| tblVehicleTrips | ST_TR | 1.68 | 1.04 |
| tblVehicleTrips | SU_TR | 1.68 | 1.04 |
| tblVehicleTrips | WD_TR | 1.68 | 1.04 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

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

Building 4 Operations Passenger Cars - San Bernardino-South Coast County, Annual

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

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Energy | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 866.2171 | 866.2171 | 0.0462 | 0.0111 | 870.6902 |
| Mobile | 0.3288 | 0.6325 | 6.8054 | 0.0220 | 2.4935 | 0.0140 | 2.5075 | 0.6619 | 0.0129 | 0.6749 | 0.0000 | 1,989.8395 | 1,989.8395 | 0.0485 | 0.0000 | 1,991.0521 |
| Offroad | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 203.1919 | 0.0000 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 78.1249 | 723.7820 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | **4.4816** | **2.3761** | **7.5234** | **0.0249** | **2.4935** | **0.0749** | **2.5683** | **0.6619** | **0.0696** | **0.7315** | **281.3168** | **3,790.5874** | **4,071.9042** | **20.2351** | **0.2093** | **4,640.1635** |

## 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 | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Energy | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 866.2171 | 866.2171 | 0.0462 | 0.0111 | 870.6902 |
| Mobile | 0.3288 | 0.6325 | 6.8054 | 0.0220 | 2.4935 | 0.0140 | 2.5075 | 0.6619 | 0.0129 | 0.6749 | 0.0000 | 1,989.8395 | 1,989.8395 | 0.0485 | 0.0000 | 1,991.0521 |
| Offroad | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 203.1919 | 0.0000 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 78.1249 | 723.7820 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | **4.4816** | **2.3761** | **7.5234** | **0.0249** | **2.4935** | **0.0749** | **2.5683** | **0.6619** | **0.0696** | **0.7315** | **281.3168** | **3,790.5874** | **4,071.9042** | **20.2351** | **0.2093** | **4,640.1635** |

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

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 3/16/2017 | 3/16/2017 | 5 | 1 | |

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

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

**Acres of Paving: 20.49**

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

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 0 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 | 0 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2017

### Unmitigated Construction On-Site

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

### Unmitigated Construction Off-Site

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

### 3.2 Site Preparation - 2017

**Mitigated Construction On-Site**

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

**Mitigated Construction Off-Site**

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

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.3288 | 0.6325 | 6.8054 | 0.0220 | 2.4935 | 0.0140 | 2.5075 | 0.6619 | 0.0129 | 0.6749 | 0.0000 | 1,989.8395 | 1,989.8395 | 0.0485 | 0.0000 | 1,991.0521 |
| Unmitigated | 0.3288 | 0.6325 | 6.8054 | 0.0220 | 2.4935 | 0.0140 | 2.5075 | 0.6619 | 0.0129 | 0.6749 | 0.0000 | 1,989.8395 | 1,989.8395 | 0.0485 | 0.0000 | 1,991.0521 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 1,107.48 | 1,107.48 | 1107.48 | 6,691,808 | 6,691,808 |
| Total | 1,107.48 | 1,107.48 | 1,107.48 | 6,691,808 | 6,691,808 |

## 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 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 100.00 | 0.00 | 0.00 | 100 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |
| Unrefrigerated Warehouse-No Rail | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 755.4063 | 755.4063 | 0.0440 | 9.1100e-003 | 759.2209 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 755.4063 | 755.4063 | 0.0440 | 9.1100e-003 | 759.2209 |
| NaturalGas Mitigated | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| NaturalGas Unmitigated | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |

## 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 2.07652e+006 | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| **Total** | | **0.0112** | **0.1018** | **0.0855** | **6.1000e-004** | | **7.7400e-003** | **7.7400e-003** | | **7.7400e-003** | **7.7400e-003** | **0.0000** | **110.8108** | **110.8108** | **2.1200e-003** | **2.0300e-003** | **111.4693** |

### 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 2.07652e+006 | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| **Total** | | **0.0112** | **0.1018** | **0.0855** | **6.1000e-004** | | **7.7400e-003** | **7.7400e-003** | | **7.7400e-003** | **7.7400e-003** | **0.0000** | **110.8108** | **110.8108** | **2.1200e-003** | **2.0300e-003** | **111.4693** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 801504 | 180.9201 | 0.0105 | 2.1800e-003 | 181.8337 |
| Unrefrigerated Warehouse-No Rail | 2.54506e+006 | 574.4862 | 0.0335 | 6.9300e-003 | 577.3873 |
| **Total** | | **755.4063** | **0.0440** | **9.1100e-003** | **759.2209** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 801504 | 180.9201 | 0.0105 | 2.1800e-003 | 181.8337 |
| Unrefrigerated Warehouse-No Rail | 2.54506e+006 | 574.4862 | 0.0335 | 6.9300e-003 | 577.3873 |
| **Total** | | **755.4063** | **0.0440** | **9.1100e-003** | **759.2209** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Unmitigated | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.1078 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 3.9068 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 4.1300e-003 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| **Total** | **4.0187** | **4.0000e-004** | **0.0432** | **0.0000** | | **1.6000e-004** | **1.6000e-004** | | **1.6000e-004** | **1.6000e-004** | **0.0000** | **0.0829** | **0.0829** | **2.3000e-004** | **0.0000** | **0.0886** |

### 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 | 0.1078 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 3.9068 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 4.1300e-003 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| **Total** | **4.0187** | **4.0000e-004** | **0.0432** | **0.0000** | | **1.6000e-004** | **1.6000e-004** | | **1.6000e-004** | **1.6000e-004** | **0.0000** | **0.0829** | **0.0829** | **2.3000e-004** | **0.0000** | **0.0886** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| Unmitigated | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 246.254 / 0 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | | **801.9069** | **8.0664** | **0.1982** | **1,062.6277** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 246.254 / 0 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | | **801.9069** | **8.0664** | **0.1982** | **1,062.6277** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Unmitigated | 203.1919 | 12.0083 | 0.0000 | 503.3994 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1000.99 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| **Total** | | **203.1919** | **12.0083** | **0.0000** | **503.3994** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1000.99 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| **Total** | | **203.1919** | **12.0083** | **0.0000** | **503.3994** |

## 9.0 Operational Offroad

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

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Tractors/Loaders/Backhoes | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| **Total** | **0.1228** | **1.6414** | **0.5892** | **2.3100e-003** | | **0.0530** | **0.0530** | | **0.0487** | **0.0487** | **0.0000** | **210.6659** | **210.6659** | **0.0656** | **0.0000** | **212.3054** |

## 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

# Building 4 Operations Trucks

**San Bernardino-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 1,064.88 | 1000sqft | 41.55 | 1,064,880.00 | 0 |
| Parking Lot | 2,277.00 | Space | 20.49 | 910,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 10 | | | **Operational Year** | 2018 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 497.64 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Building 4 Operations Trucks - San Bernardino-South Coast County, Annual

Project Characteristics - CPUC GHG Calculator version 3c, worksheet tab "CO2 Allocations," cells AH/AQ 35-44.

Land Use - Total lot acreage: 62.04; A trailer parking space requires significantly more space than one regular parking space. Therefore, for analysis purposes, 1 trailer parking=3.27 spaces

Construction Phase - Operation only

Off-road Equipment -

Off-road Equipment - Operation only

On-road Fugitive Dust - Operation only

Vehicle Trips - Based on traffic study and ITE Trip Generation Manual, 9th Edition

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Based on information provided by the Project engineer

Energy Use - Title-24 Electricity Energy Intensity and Title-24 Natural Gas Energy Intensity were adjusted by 5% (nonresidential) to reflect 2016 Title 24 requirements. Source: 2016 Building Energy Efficiency Standards Adoption Hearing (CEC 2015)

Fleet Mix - Trucks only

Operational Off-Road Equipment - All yard trucks are non-diesel

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | Area_Nonresidential_Exterior | 532440 | 202500 |
| tblAreaCoating | Area_Nonresidential_Interior | 1597320 | 207820 |
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0 | 0.5 |
| tblConstructionPhase | NumDays | 40.00 | 1.00 |
| tblEnergyUse | T24E | 0.39 | 0.37 |
| tblEnergyUse | T24NG | 2.02 | 1.92 |
| tblFleetMix | HHD | 0.06 | 0.60 |
| tblFleetMix | LDA | 0.54 | 0.00 |
| tblFleetMix | LDT2 | 0.18 | 0.00 |
| tblFleetMix | LHD1 | 0.02 | 0.22 |

Building 4 Operations Trucks - San Bernardino-South Coast County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | LHD2 | 5.9060e-003 | 0.00 |
| tblFleetMix | MCY | 6.3790e-003 | 0.00 |
| tblFleetMix | MDV | 0.13 | 0.00 |
| tblFleetMix | MH | 1.2510e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.18 |
| tblFleetMix | OBUS | 1.3150e-003 | 0.00 |
| tblFleetMix | SBUS | 8.2900e-004 | 0.00 |
| tblFleetMix | UBUS | 1.7780e-003 | 0.00 |
| tblLandUse | LotAcreage | 24.45 | 41.55 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 0.00 |
| tblOnRoadDust | HaulingPercentPave | 100.00 | 0.00 |
| tblOnRoadDust | VendorPercentPave | 100.00 | 0.00 |
| tblOnRoadDust | WorkerPercentPave | 100.00 | 0.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperHorsePower | 97.00 | 200.00 |
| tblOperationalOffRoadEquipment | OperHoursPerDay | 8.00 | 4.00 |
| tblOperationalOffRoadEquipment | OperLoadFactor | 0.37 | 0.37 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 497.64 |
| tblVehicleTrips | CNW_TTP | 41.00 | 0.00 |
| tblVehicleTrips | CW_TL | 16.60 | 40.00 |
| tblVehicleTrips | CW_TTP | 59.00 | 100.00 |
| tblVehicleTrips | DV_TP | 5.00 | 0.00 |
| tblVehicleTrips | PB_TP | 3.00 | 0.00 |
| tblVehicleTrips | PR_TP | 92.00 | 100.00 |

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 1.68 | 0.64 |
| tblVehicleTrips | SU_TR | 1.68 | 0.64 |
| tblVehicleTrips | WD_TR | 1.68 | 0.64 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

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

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

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Energy | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 866.2171 | 866.2171 | 0.0462 | 0.0111 | 870.6902 |
| Mobile | 1.5378 | 46.9461 | 12.1172 | 0.1445 | 4.3481 | 0.3473 | 4.6954 | 1.2251 | 0.3321 | 1.5572 | 0.0000 | 13,796.0618 | 13,796.0618 | 0.5086 | 0.0000 | 13,808.7766 |
| Offroad | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 203.1919 | 0.0000 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 78.1249 | 723.7820 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | **5.6905** | **48.6897** | **12.8352** | **0.1474** | **4.3481** | **0.4081** | **4.7562** | **1.2251** | **0.3887** | **1.6139** | **281.3168** | **15,596.8096** | **15,878.1264** | **20.6952** | **0.2093** | **16,457.8880** |

## 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 | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Energy | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 866.2171 | 866.2171 | 0.0462 | 0.0111 | 870.6902 |
| Mobile | 1.5378 | 46.9461 | 12.1172 | 0.1445 | 4.3481 | 0.3473 | 4.6954 | 1.2251 | 0.3321 | 1.5572 | 0.0000 | 13,796.0618 | 13,796.0618 | 0.5086 | 0.0000 | 13,808.7766 |
| Offroad | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 203.1919 | 0.0000 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 78.1249 | 723.7820 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | **5.6905** | **48.6897** | **12.8352** | **0.1474** | **4.3481** | **0.4081** | **4.7562** | **1.2251** | **0.3887** | **1.6139** | **281.3168** | **15,596.8096** | **15,878.1264** | **20.6952** | **0.2093** | **16,457.8880** |

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

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 3/16/2017 | 3/16/2017 | 5 | 1 | |

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

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

**Acres of Paving: 20.49**

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

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 0 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 | 0 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2017

### Unmitigated Construction On-Site

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

### Unmitigated Construction Off-Site

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

### 3.2 Site Preparation - 2017

**Mitigated Construction On-Site**

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

**Mitigated Construction Off-Site**

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

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.5378 | 46.9461 | 12.1172 | 0.1445 | 4.3481 | 0.3473 | 4.6954 | 1.2251 | 0.3321 | 1.5572 | 0.0000 | 13,796.0618 | 13,796.0618 | 0.5086 | 0.0000 | 13,808.7766 |
| Unmitigated | 1.5378 | 46.9461 | 12.1172 | 0.1445 | 4.3481 | 0.3473 | 4.6954 | 1.2251 | 0.3321 | 1.5572 | 0.0000 | 13,796.0618 | 13,796.0618 | 0.5086 | 0.0000 | 13,808.7766 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 681.52 | 681.52 | 681.52 | 9,922,978 | 9,922,978 |
| Total | 681.52 | 681.52 | 681.52 | 9,922,978 | 9,922,978 |

## 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 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 40.00 | 8.40 | 6.90 | 100.00 | 0.00 | 0.00 | 100 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.040171 | 0.000000 | 0.000000 | 0.220300 | 0.000000 | 0.176600 | 0.603100 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Parking Lot | 0.536558 | 0.040171 | 0.178324 | 0.131133 | 0.021173 | 0.005906 | 0.016602 | 0.058581 | 0.001315 | 0.001778 | 0.006379 | 0.000829 | 0.001251 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 755.4063 | 755.4063 | 0.0440 | 9.1100e-003 | 759.2209 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 755.4063 | 755.4063 | 0.0440 | 9.1100e-003 | 759.2209 |
| NaturalGas Mitigated | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| NaturalGas Unmitigated | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |

## 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 2.07652e+006 | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| **Total** | | **0.0112** | **0.1018** | **0.0855** | **6.1000e-004** | | **7.7400e-003** | **7.7400e-003** | | **7.7400e-003** | **7.7400e-003** | **0.0000** | **110.8108** | **110.8108** | **2.1200e-003** | **2.0300e-003** | **111.4693** |

### 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 | | | | | |
| 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 |
| Unrefrigerated Warehouse-No Rail | 2.07652e+006 | 0.0112 | 0.1018 | 0.0855 | 6.1000e-004 | | 7.7400e-003 | 7.7400e-003 | | 7.7400e-003 | 7.7400e-003 | 0.0000 | 110.8108 | 110.8108 | 2.1200e-003 | 2.0300e-003 | 111.4693 |
| **Total** | | **0.0112** | **0.1018** | **0.0855** | **6.1000e-004** | | **7.7400e-003** | **7.7400e-003** | | **7.7400e-003** | **7.7400e-003** | **0.0000** | **110.8108** | **110.8108** | **2.1200e-003** | **2.0300e-003** | **111.4693** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 801504 | 180.9201 | 0.0105 | 2.1800e-003 | 181.8337 |
| Unrefrigerated Warehouse-No Rail | 2.54506e+006 | 574.4862 | 0.0335 | 6.9300e-003 | 577.3873 |
| **Total** | | **755.4063** | **0.0440** | **9.1100e-003** | **759.2209** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 801504 | 180.9201 | 0.0105 | 2.1800e-003 | 181.8337 |
| Unrefrigerated Warehouse-No Rail | 2.54506e+006 | 574.4862 | 0.0335 | 6.9300e-003 | 577.3873 |
| **Total** | | **755.4063** | **0.0440** | **9.1100e-003** | **759.2209** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| Unmitigated | 4.0187 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.1078 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 3.9068 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 4.1300e-003 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| **Total** | **4.0187** | **4.0000e-004** | **0.0432** | **0.0000** | | **1.6000e-004** | **1.6000e-004** | | **1.6000e-004** | **1.6000e-004** | **0.0000** | **0.0829** | **0.0829** | **2.3000e-004** | **0.0000** | **0.0886** |

### 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 | 0.1078 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 3.9068 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 4.1300e-003 | 4.0000e-004 | 0.0432 | 0.0000 | | 1.6000e-004 | 1.6000e-004 | | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0829 | 0.0829 | 2.3000e-004 | 0.0000 | 0.0886 |
| **Total** | **4.0187** | **4.0000e-004** | **0.0432** | **0.0000** | | **1.6000e-004** | **1.6000e-004** | | **1.6000e-004** | **1.6000e-004** | **0.0000** | **0.0829** | **0.0829** | **2.3000e-004** | **0.0000** | **0.0886** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| Unmitigated | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 246.254 / 0 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | | **801.9069** | **8.0664** | **0.1982** | **1,062.6277** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 246.254 / 0 | 801.9069 | 8.0664 | 0.1982 | 1,062.6277 |
| **Total** | | **801.9069** | **8.0664** | **0.1982** | **1,062.6277** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| Unmitigated | 203.1919 | 12.0083 | 0.0000 | 503.3994 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1000.99 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| **Total** | | **203.1919** | **12.0083** | **0.0000** | **503.3994** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1000.99 | 203.1919 | 12.0083 | 0.0000 | 503.3994 |
| **Total** | | **203.1919** | **12.0083** | **0.0000** | **503.3994** |

## 9.0 Operational Offroad

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

**UnMitigated/Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Tractors/Loaders/Backhoes | 0.1228 | 1.6414 | 0.5892 | 2.3100e-003 | | 0.0530 | 0.0530 | | 0.0487 | 0.0487 | 0.0000 | 210.6659 | 210.6659 | 0.0656 | 0.0000 | 212.3054 |
| **Total** | **0.1228** | **1.6414** | **0.5892** | **2.3100e-003** | | **0.0530** | **0.0530** | | **0.0487** | **0.0487** | **0.0000** | **210.6659** | **210.6659** | **0.0656** | **0.0000** | **212.3054** |

## 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