Colony Commerce Center

GREENHOUSE GAS ANALYSIS

CITY OF ONTARIO

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OCTOBER 12, 2017

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LIST OF ABBREVIATED TERMS

(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	Colony Commerce Center
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

GHG Impact #1: The Project would generate direct or indirect greenhouse gas emission that would result in a significant impact on the environment

The City of Ontario adopted a Climate Action Plan (CAP) in December 2014, which provides guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City of Ontario (City) (1).

The CAP specifies a two-step approach in quantifying GHG emissions (2). First, a screening threshold of 3,000 MT (metric tons) CO2e (carbon dioxide equivalents) per year is used to determine if additional analysis is required. Projects that exceed the 3,000 MTCO2e per year will be required to either achieve a minimum 100 points per the Screening Tables or a minimum 25% reduction between unmitigated and mitigated Project 2020 GHG emissions. Consistent with CEQA guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

As shown on Table ES-1, Project GHG emissions for PA1 and PA2 would generate 26,494.79 MTCO2e per year. As shown on Table ES-2, Project GHG emissions for PA3 would generate 3,497.82 MTCO2e per year. As shown on ES-3, Project horizon year (2040) GHG emissions would result in 24,536.16 net new MTCO2e per year. As such, the Project would exceed the screening threshold of 3,000 MTCO2e per year. For the purposes of this analysis, the Screening Table approach is utilized to determine the Project's consistency with the City's CAP. In order to enforce the requirements of the CAP Screening Tables, Mitigation Measure GHG-1 requires that the project implement at least 100 points from the City of Ontario Greenhouse Gas Emissions Screening Tables. Therefore, since the project will incorporate at least 100 points from the screening tables, the project's impact on greenhouse gas emissions is less than significant. Please refer to Appendix 3.2 for Project screening tables.

TABLE 3-1: PA1 AND PA2 GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	Emissions (metric tons per year)			
	CO2	CH4	N2O	Total CO2E
Annual construction-related emissions amortized over 30 years	132.63	0.01	0.00	132.88
Area	0.03	0.00	0.00	0.04
Energy	2219.83	0.08	0.02	2228.88
Mobile (Trucks)	18248.85	0.60	0.00	18263.74
Mobile (Passenger Cars)	3863.70	0.09	0.00	3865.84
On-Site Equipment	618.29	18.27	0.00	1075.04
Waste	341.15	12.37	0.03	658.39
Water Usage	11921.50	1.60	0.04	269.98
Total CO_2E (All Sources)	**26,494.79**			
Existing Cow Emissions	***-5,456.45***			
Net Total CO2E (All Sources)	**21,038.3**			

TABLE 3-2: PA3 GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	Emissions (metric tons per year)			
	CO2	CH4	N2O	Total CO2E
Annual construction-related emissions amortized over 30 years	19.23	0.003	0.00	19.31
Area	5.74E-03	2.00E-05	0.00	6.13E-03
Energy	442.96	0.02	0.00	444.83
Mobile (Trucks)	2,193.37	0.05	0.00	2,194.69
Mobile (Passenger Cars)	425.58	0.003	0.00	425.58
Waste	47.64	2.82	0.00	118.02
Water Usage	238.77	1.75	0.04	295.38
Total CO_2E (All Sources)	**3,497.82**			

TABLE 3-3: PROJECT BUILDOUT GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	Total CO2e
PA1 and PA2 Emissions	26,494.79
PA3 Emissions	3,497.82
Existing Cow Emissions	-5,456.45
Total CO_2E (All Sources)	**24,536.16**

GHG Impact #2: The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Consistency with AB 32

AB 32 requires California to reduce its GHG emissions by approximately 28.5% when compared to GHG emissions produced under a Business as Usual scenario (3). CARB identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan. Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the 28.5% reduction below business as usual required by AB 32.

The Project would generate GHG emissions from a variety of sources which would all emit Carbon Dioxide (CO2), Methane (CH4) and N2O. GHGs could also be indirectly generated by incremental electricity consumption and waste generation from the Project.

As stated previously, the CARB Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32. The CARB Scoping Plan recommendations serve as statewide measures to reduce GHG emissions levels. The Project would be consistent with the applicable measures established in the Scoping Plan, as detailed in Section 4.

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 (4) (5).

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. (6) (7).

The Project reduces its GHG emissions to the maximum extent feasible as discussed in this document. Additionally, the project applicant 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 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.

1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Colony Commerce Center ("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 Colony Commerce Center site is located on the southwest corner of Archibald Avenue and Merrill Avenue in the City of Ontario, as shown on Exhibit 1-A. Interstate 15 (I-15) is located approximately two miles east of the Project site. Existing land uses in the Project study area include existing agricultural uses north, west, and south of the Project site, and residential homes east across Archibald Avenue.

1.2 PROJECT DESCRIPTION

The proposed Project would develop and operate the Colony Commerce East Specific Plan. The Specific Plan contains three Planning Areas. Planning Area (PA) 1 and PA2 of the Specific Plan are anticipated to be operational by 2019. The remaining PA3 is proposed to be developed with up to 231,195 square feet (sf) of industrial use; however, the timeline for development is unknown, and is dependent upon economic conditions and full occupancy of PA1 and PA2. This analysis assumes that PA-3 would be developed and operational by year 2040.

As indicated on Exhibit 1-B, the total development of PA1 and PA2 is proposed to consist of up to 175,330-sf of manufacturing use (25 percent of the square footage for Buildings 1 through 8), 525,991-sf of warehousing use (75 percent of the square footage for Buildings 1 through 8), and 998,680-sf high-cube warehouse/distribution center use (Building 9). Similarly, PA3 would develop consist of up to 57,799-sf of manufacturing use (25 percent of the square footage), 173,396-sf of warehousing use (75 percent of the square footage).

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. As such, emissions associated with CHE have been modeled in CalEEMod as powered by CNG as a conservative measure.

According to the *Colony Commerce Center Traffic Impact Analysis* prepared by Urban Crossroads, Inc., under year 2019 conditions, the Project is expected to generate a net total of approximately 3,003 trip-ends per day (actual vehicles) with 279 AM peak hour trips and 316 PM peak hour trips. Under Horizon Year 2040 conditions, the Project is expected to generate a net total of approximately 3,533 trip-ends per day (actual vehicles) with 343 AM peak hour trips and 385 PM peak hour trips.**Invalid source specified.** The net Project trip generation includes 764 truck trip-ends per day from the proposed buildings within the Project site under Opening Year 2019 conditions, and 873 truck trip-ends per day under Horizon Year 2040 conditions. This GHG study relies on the net Project trips to accurately account for the effect of individual truck trips on the study area roadway network.

1.3 PROJECT DESIGN FEATURES

The Project would implement energy-saving and sustainable design features and operational programs, consistent with the reduction measures set forth in the City of Ontario CAP, to be incorporated into all facilities developed pursuant to the Project. Notably, the Project would comply with the California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11) as implemented by the City of Ontario. The Project also incorporates and expresses the following design features and attributes promoting energy efficiency and sustainability. Because these features/attributes are integral to the Project, and/or are regulatory requirements, they are not considered to be mitigation measures.

- Use of modestly enhanced insulation (walls R-13, roof/attic R-38) for energy efficiency;
- Installation of enhanced window insulation (0.32 U-factor, 0.25 SHGC);
- Use of light-colored roofing with high solar reflectance to reduce heat island effects (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance);
- Implement distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent);
- Identify opportunities to provide natural lighting to reduce reliance on artificial lighting;
- Install high-efficiency lighting systems with advanced lighting controls (25% of in-unit fixtures considered high efficacy)
- Use energy star commercial appliances in the development including water efficient appliances;
- Align building orientation to take advantage of natural heating, cooling, and lighting conditions;
- Use smart irrigation controllers that automatically adjust frequency/duration of irrigation of landscape areas in response to changing weather conditions;
- Use of recycled water to irrigate landscape areas;
- Use of swaled landscape areas for storm runoff capture and retention/infiltration;
- Choose construction materials and interior finish products with zero or low emissions to improve indoor air quality;
- Provide adequate ventilation and high-efficiency in-duct filtration system;
- Use low- or medium water use, and native plant materials where appropriate; minimize turf areas;
- Provide public charging stations for use by electric vehicles;
- Use low volatile organic compound paints and wallpapers;
- Use recycle base, crushed concrete base, recycle content asphalt, shredded tired in base and asphalt roads, parking areas, and drive aisles where feasible and economically available;
- Use ultra low-flush toilets, low-flow shower heads and other water conserving fixture.

1.4 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.

1.5 OPERATIONAL-SOURCE MITIGATION MEASURES

MM AQ-3

Pursuant to CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation, all heavy-duty trucks shall utilize 2010 model year engines or equivalent.

MM AQ-4

The Project shall place signs that identify CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for trucks drivers to restrict idling to no more than 3 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and CARB to report violations.

EXHIBIT 1-A: LOCATION MAP

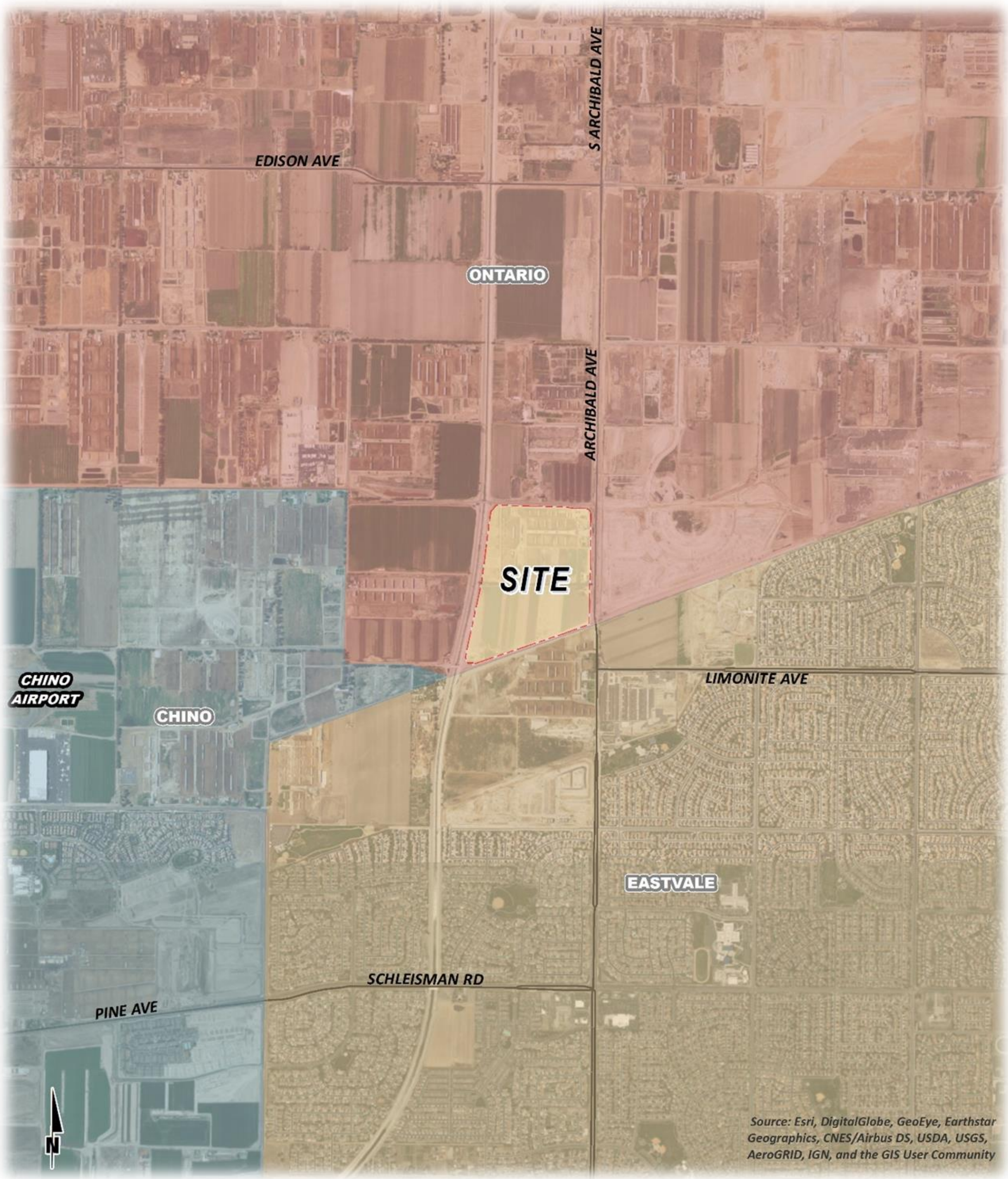
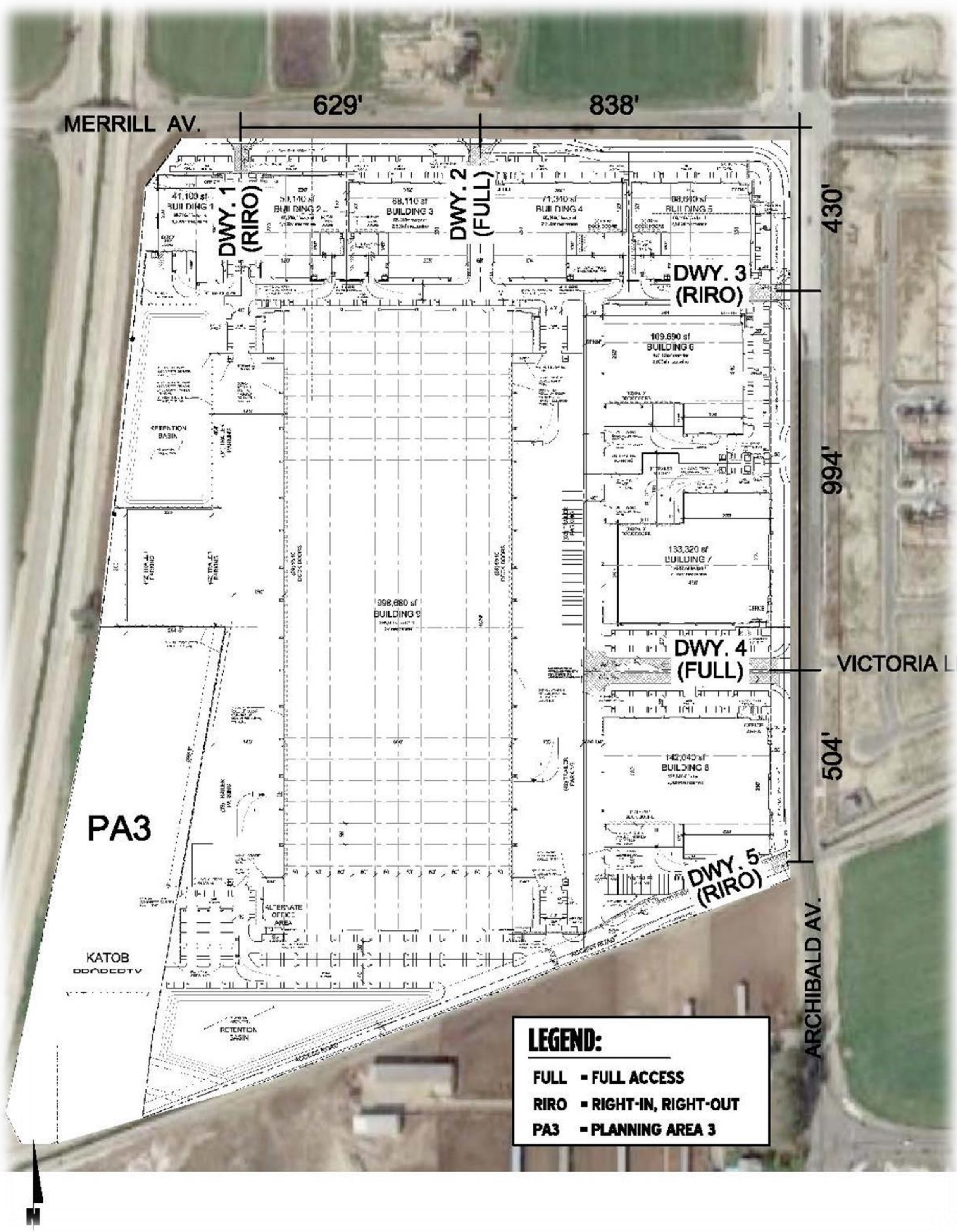


EXHIBIT 1-B: SITE PLAN



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 gases 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 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 climate change since the industrial revolution differs from previous climate changes in both rate and magnitude (8).

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 it is currently. 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 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 (9).

2.3 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] (10) (11). 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.

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 83 percent of total greenhouse gas emissions (12). Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 78 percent of the GHG 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 (27 member countries)	4,544,224
Russian Federation	2,322,220
India	3,013,770
Japan	1,344,580

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,"

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

Total	**28,865,994**

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2016 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2014 greenhouse gas emissions inventory, California emitted 441.5 MMTCO2e including emissions resulting from imported electrical power in 2014 (13). Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 MMTCO2e excluding emissions related to imported power (14).

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 not accepted emissions factors or methodology exist to accurately calculate these gases.

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.

<u>Carbon Dioxide</u>: 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 (15).

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 (16).

<u>Methane</u>: 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. No health effects are known to occur from exposure to methane.

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.

<u>Nitrous Oxide</u>: 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) (17).

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 (18). 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 (23,900). 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.

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

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 to 75 to 85 percent under the medium warming range. 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, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F 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.

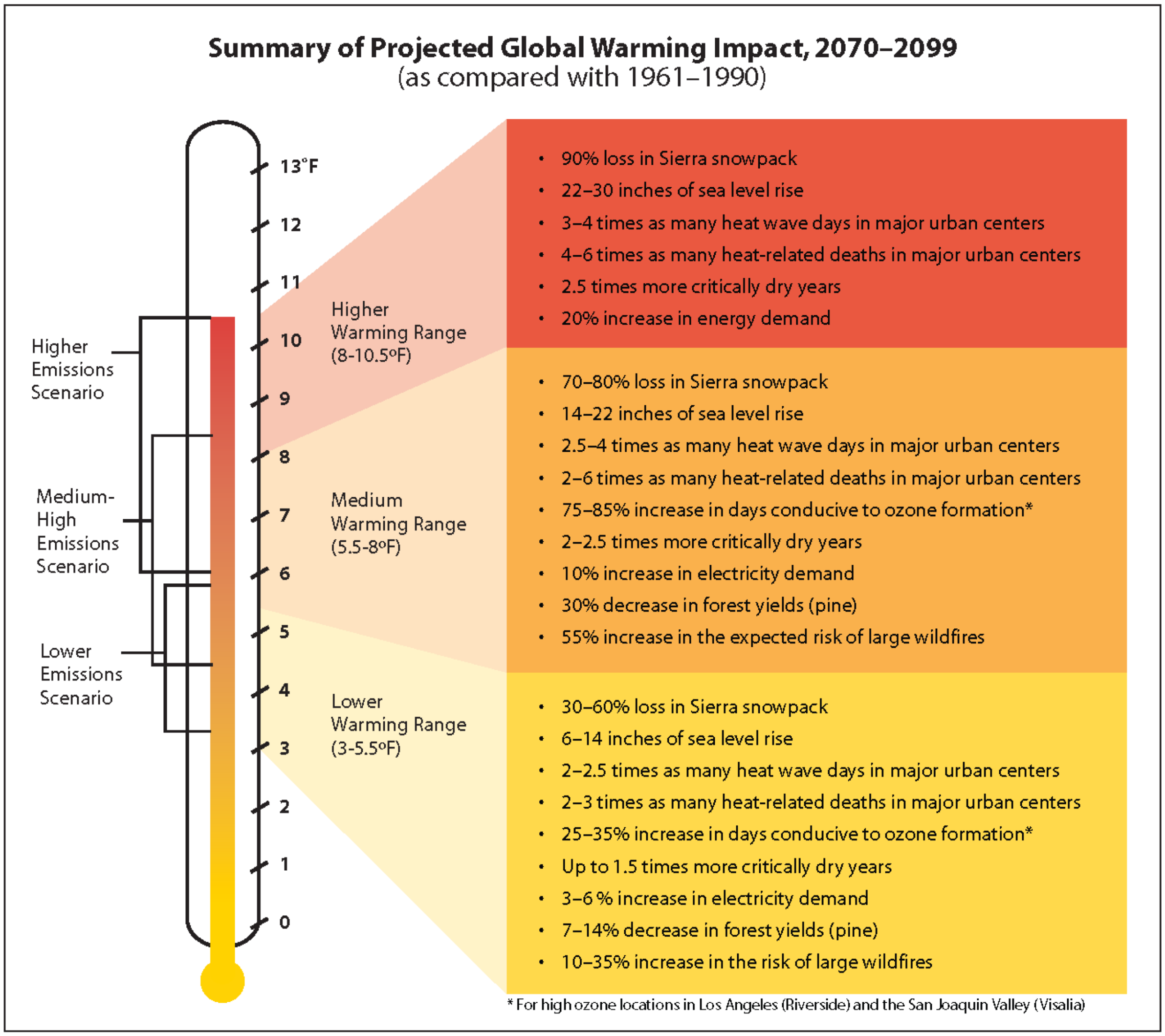
Rising Sea Levels

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 (19). Exhibit 2-A presents the potential impacts of global warming.

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT



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

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 (20).

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 (21).

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 (21).

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 (20).

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 (22).

2.7 REGULATORY SETTING

INTERNATIONAL

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at average of five per cent against 1990 levels over the five-year period 2008–

2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. .The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014 more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;

- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (23).

NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

Greenhouse Gas Endangerment. Massachusetts v. *Environmental Protection Agency* 549 U.S. 497 (2007) decided on April 2, 2007, the Supreme Court found that four GHGs, including carbon dioxide, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator findings (EPA 2009b).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012c). The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of carbon dioxide (CO_2) in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20-percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10-percent reduction in fuel consumption and carbon dioxide emissions from the 2014 to 2018 model years.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant

Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO_x Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers' money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and

Ontario are not currently participating. California linked with Quebec's cap and trade system January 1, 2014 and joint offset auctions have taken place in 2015 (C2ES 2015).

SmartWay Program. The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both greenhouse gas emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (EPA 2014):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all heavy-duty trucks will have to comply with the ARB Greenhouse Gas Regulation that is designed with the SmartWay Program in mind, to reduce greenhouse gas emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10 percent or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.

- Federal excise tax exemptions.

CALIFORNIA

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The California Air Resources Board (ARB) is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (ARB 2008). At that level, a 28.4 percent reduction was required to achieve the 427 million $MTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million $MTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010).

PROGRESS IN ACHIEVING AB 32 TARGETS AND REMAINING REDUCTIONS REQUIRED

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by ARB for 2000 through 2012 (ARB 2014a). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 million $MTCO_2e$ (AB 32 2020 target)
- 2000: 463 million $MTCO_2e$ (an average 8-percent reduction needed to achieve 1990 base)
- 2010: 450 million $MTCO_2e$ (an average 5-percent reduction needed to achieve 1990 base)

The ARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, ARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4 percent and the latest reduction from 2020 BAU is 21.7 percent.

- 2020: 545 million $MTCO_2e$ BAU (an average 21.7-percent reduction from BAU needed to achieve 1990 base)

ARB Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report establishes a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities Climate for the next several years. The Update does not set new targets for the State, but describes a path that would achieve the long term 2050 goal of Executive Order S-05-03 for emissions to decline to 80 percent below 1990 levels by 2050 (ARB 2014).

Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the amount of reductions California must achieve to return to the 1990 emissions level by 2020 as required by AB 32. The no-action scenario is known as "business-as-usual" or BAU. The ARB originally defined the BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the Scoping Plan.

As part of CEQA compliance for the Scoping Plan, ARB prepared a Supplemental Functional Equivalent Document (FED) in 2011. The FED included an updated 2020 BAU emissions inventory projection based on current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. ARB staff derived the updated emissions estimates by projecting emissions growth, by sector, from the state's average emissions from 2006–2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, ARB factored into the 2020 BAU inventory emissions reductions associated with 33-percent Renewable Energy Portfolio Standard (RPS) for electricity generation. The updated BAU estimate of 507 $MMTCO_2e$ by 2020 requires a reduction of 80 $MMTCO_2e$, or a 16-percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 $MMTCO_2e$) by 2020.

In order to provide a BAU reduction that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. The ARB 2020 BAU projection for GHG emissions in California was originally estimated to be 596 $MMTCO_2e$. The updated ARB 2020 BAU projection in the Supplemental FED is 545 $MMTCO_2e$. Considering the updated BAU estimate of 545 $MMTCO_2e$ by 2020, ARB estimates a 21.7-percent reduction below the estimated statewide BAU levels is necessary to return to 1990 emission levels (i.e., 427 $MMTCO_2e$) by 2020, instead of the approximate 28.4-percent BAU reduction previously reported under the original Climate Change Scoping Plan (2008).

On January 20, 2017, ARB released the proposed Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy. 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.

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. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The

CALGAPS model showed that GHG emissions through 2020 could range from 317 to 415 MTCO2e per year, "indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32]." CALGAPS also showed that by 2030, emissions could range from 211 to 428 MTCO2e per year, indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40 percent below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Though the research indicated that the emissions would not meet the state's 80 percent reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (6) (7).

Senate Bill 32. 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. AB 197 creates a legislative committee to oversee regulators to ensure that ARB is not only respond to the Governor, but also the Legislature (4) (5).

Cap and Trade Program. The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to ARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80-percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

ARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. See 17 California Code of Regulations (CCR) §§ 95800 to 96023. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25.000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program. Triggering of the 25.000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, ARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments"

(30) for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by ARB in the First Update:

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB 2014).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus. the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's

emissions forecasts and the effectiveness of direct regulatory measures (ARB 2014).

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program (ARB 2015) (24).

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[3]

SB 375 - the Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns

[3] On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irritated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB's petition staying the trail court's order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 1368 – Emission Performance Standards. In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions 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 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of 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 GHG emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for GHG emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs CO_2 per megawatt-hour (MWh).

SB 1078 – Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 1078 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

SBX 7-7 – The Water Conservation Act of 2009. The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020 and related reduction in energy use for transporting and treating water.

SB 350— Clean Energy and Pollution Reduction Act of 2015. The legislature recently approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S 3-05, the following reduction targets for GHG emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard. The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011 included a preliminary injunction against ARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the ARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that Low Carbon Fuel Standards adopted by ARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled ARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of ARB approving Low Carbon Fuel Standards (LCFS) regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-CI fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing was held on September 24, 2015 and September 25, 2015 where the LCFS Regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with Office of Administrative Law (OAL) on October 2, 2015. OAL has until November 16, 2015 to make a determination (ARB 2015d).

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's greenhouse gas reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2 equivalent ($MMCO_2e$). The executive order also requires the state's climate adaptation plan to be updated every three years and for the state to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Standards. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2012).

Title 24 Energy Efficiency Standards and California Green Building Standards. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The newest version of Title 24 was adopted by the California Energy Commission (CEC) in June 2015 and became effective on January 1, 2017 (25).

The California Energy Commission (CEC) indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent for nonresidential buildings above that achieved by the 2013 Title 24 (CEC 2015).

California Code of Regulations, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011 administered by the California Building Standards Commission. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they establish a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. The California Green Building Standards Code requires:

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
- Construction waste. A minimum 65-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 80 percent for new homes and commercial projects (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
- The installation of water-conserving fixtures (5.303.3) or
- Using nonpotable water systems (5.303.4).
- Water use savings. 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35 and 40-percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- Building commissioning. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

ARB Refrigerant Management Program. The ARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, California Code of Regulations. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer Greenhouse Gas Regulation. The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated GHG emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. GHG 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 GHG 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 emissions are cumulatively considerable.

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

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include GHG questions.

REGIONAL

The project is within the Southern California Air Basin (SoCAB), which is under the jurisdiction of the SCAQMD.

South Coast Air Quality Management District

The SCAQMD is the agency responsible for air quality planning and regulation in the SoCAB. For greenhouse gases, the agency addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

The SCAQMD formed a working group to identify greenhouse gas emissions thresholds for land use projects that could be used by local lead agencies in the air basin in 2008. The working group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the

Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - All land use types: 3,000 $MTCO_2e$ per year
    - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year
- Tier 4 has the following options:
    - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
    - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
    - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate.

The SCAQMD only has authority over GHG emissions from development projects that include air quality permits. The project does not include stationary sources of emissions subject to SCAQMD permit; however, the SCAQMD has adopted a regulation that includes voluntary programs that are available for use in CEQA compliance.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

LOCAL

The City of Ontario adopted a Climate Action Plan (CAP) on December 16, 2014. The CAP contains further guidance on the City of Ontario's GHG Inventory reduction goals, policies, guidelines, and implementation programs. The purpose of the CAP is to provide guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City of Ontario (26). The CAP builds upon the Reduction Plan to address City-specific information and City-specific GHG reduction measures. To address the state's requirement to reduce GHG emissions, the City prepared its CAP with the goal of reducing GHG emissions within the City by 15% below 2008 levels by the year 2020. The City's target is consistent with the AB 32 target and ensures that the City of Ontario will be providing GHG reductions locally that will complement state efforts to reduce GHG emissions.

As part of the CAP, the City of Ontario published a guidance document titled "Greenhouse Gas Emissions, Screening Tables" (December 2014). As part of this guidance, the City determined the size of development that is too small to be able to provide the level of GHG emission reductions expected from the Screening Tables or alternate emissions analysis method. The City's analysis determined that the 3,000 $MTCO_2e$ per year value be used in defining small projects that are considered less than significant and do not need to use the Screening Tables or alternative calculations.

If the project exceeds the 3,000 $MTCO_2e$ per year threshold, then project emissions would need to be reduced by 25 percent from year 2008 emissions levels or alternatively the Project would need to achieve a minimum of 100 points pursuant to the CAP Screening Tables. The screening tables also allow developers to tailor their mitigation measures to the project's needs, rather than have them be subject to one-size fits all mitigation measures that may be too stringent for them.

2.8 THRESHOLDS OF SIGNIFICANCE

According to the City of Ontario CEQA thresholds, to determine whether impacts from greenhouse gas emissions are significant. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." With regard to establishing a significance threshold, the Office of Planning and Research's amendments to the CEQA Guidelines Section 15064.7(c) state that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, "…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."

CEQA Guidelines Section 15064.4 provides that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #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 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.

Biological Diversity v. California Department of Fish and Wildlife ("*Newhall Ranch*")

On November 30, 2015, the California Supreme Court in *Center for Biological Diversity v. California Department of Fish and Wildlife* ("*Newhall Ranch*") invalidated the GHG analysis for a large master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses, determining that the GHG significance finding was "not supported by a reasoned explanation based on substantial evidence." In particular, the Court upheld: (1) use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15-19), (2) use of the Scoping Plan's BAU model "as a comparative tool for evaluating efficiency and conservation efforts" of the Project (pp. 18-19), and (3) a comparison of the project's expected emissions to a BAU model rather than a baseline of pre-project conditions (pp.15-19).

Notwithstanding, however, the Court invalidated the GHG analysis on the grounds that the "administrative record discloses no substantial evidence that the Newhall Ranch's project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32's statewide goal of a 29 percent reduction from [BAU]…." (p.19, original italics; see also p. 23 ("Nor is Justice Corrigan correct that our analysis 'assumes project-level reduction in greenhouse gas emissions must be greater than the reduction California is seeking to achieve statewide.' [internal citations omitted] …[W]e only hold that DFW erred in failing to substantiate its assumption that the Scoping Plan's statewide measure of emissions reduction can also serve as the criterion for an individual land use project.")

In so doing, the Court in *Newhall Ranch* questioned whether "a greater degree of reduction may be needed" from new versus existing development to achieve the statewide goal set forth in AB 32. (p. 20.) The Court also stated that the EIR failed to contain sufficient evidence to conclude that the "land use density" assumptions used in the EIR's GHG emissions model relate to the land use density assumptions used in the Scoping Plan's BAU model. (p. 21-22.) Because this information was not contained in the *Newhall Ranch* EIR, the Court determined that the record in *Newhall Ranch* did not contain substantial evidence supporting the BAU threshold.

The Court in *Newhall Ranch* outlined "potential pathways to compliance" that future EIRs could use to determine if GHG emissions from a given project are significant. Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location. (p. 25.)
- **Compliance with Regulatory Programs or Performance Based Standards**. A lead agency "might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].) (p. 25.)
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs)**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis. (p. 26.)
- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts. (p. 27.)

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the *Newhall Ranch* opinion, the following thresholds are considered in determining the significance of impacts from GHG.

- **Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs (see Impact GHG-1)?**

  Analysis under Impact GHG-1 involves a quantitative analysis of the Project's compliance with the City of Ontario's Climate Action Plan ("CAP"). The CAP is a geographically specific plan that was adopted by the City of Ontario for the purpose of reducing GHG emissions under the control or influence of the City consistent with AB 32 and subsequent state legislation and state agency action to address climate change. This threshold is also consistent with the SCAQMD's draft interim threshold Tier 2, which consists of determining whether a project is consistent with a qualified greenhouse gas reduction plan.

- **Would the project conflict with the ARB Scoping Plan and regulations adopted for the purpose of reducing emissions of greenhouse gases (See Impact GHG-2)?**

  Analysis under Impact GHG-2 involves a qualitative analysis of the Project's consistency with the ARB's Scoping Plan and with GHG emission reducing regulations. The Scoping Plan (and its adopted regulations) are considered a statewide plan, policy, or regulation adopted by a public agency to reduce GHG emissions that may be used to assess consistency with AB 32.

The City has further determined that each one of the above-two thresholds are considered to be a separate and independent basis upon which to substantiate the significance of the project's GHG impact.

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 CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE GHG 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 (27).

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 (28). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational GHG emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1. The CalEEMod model includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.3 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 (29). 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.

3.4 EXISTING PROJECT SITE CONDITIONS

The Project site for PA1 and PA2 is currently utilized for agricultural operations and dairy and/or cattle operations, which have altered previous natural landscape conditions. At present, the site contains an active dairy, various sheds and outbuildings, above ground storage (ASTs), residential uses ancillary to the site's dairy operations, and an agriculture area. Based on information provided by the client, the Project site for PA1 and PA2 contains approximately 1,400 milking cows and 400 young cows. GHG emission factors were obtained from documentation of California's 2000-2014 GHG Inventory (30) (31). Greenhouse gas emissions associated with the dairy operations are shown below in Table 3-1. For the purposes of this analysis, credit for existing cow emissions has been taken for Project PA1 and PA2 operational activity.

TABLE 3-1: EXISTING COW GREENHOUSE GAS EMISSIONS

Animal	Quantity	CO2e per head[1]	Total CO2e (lbs/hd/yr)
Milking Cow/Mature Cow	1400	3.81	5,334.00
Heifer/Young Cow	400	0.30613	122.45
Total CO2e			5,456.45

[1]GHG Emissions Factors were obtained from Documentation of California's 2000-2014 GHG Inventory-Index

The Project site for PA3 is currently vacant. As such, no credit for existing site GHG emissions were taken.

3.5 CONSTRUCTION EMISSIONS

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

The report Colony Commerce Center Air Quality Impact Analysis Report, Urban Crossroads, Inc. (2017) contains detailed information regarding construction activity (32).

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 (33). 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

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.

Under the Truck and Bus Regulation, adopted by CARB in 2008, all diesel truck fleets operating in California are required to adhere to an aggressive schedule for upgrading and replacing heavy-duty truck engines. Pursuant to such regulation, older, heavier trucks, i.e., those with pre-2000 year engines and a gross vehicle weight rating (GVWR) greater than 26,000 pounds are already required to have installed a PM filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next eight years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are not required to be replaced until 2023. Lighter trucks (those with a GVWR of 14,001 to 26,000 pounds) must adhere to a similar schedule, and will all be replaced by 2020.

Further, nearly all trucks that are not required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a PM filter by that date. Therefore, most heavy-duty trucks entering the project site will meet or exceed U.S. EPA 2007 and 2010 emission standards within a relatively short period of time after the project becomes operational in 2018, and all such trucks entering the property will meet or exceed such standards by 2023.

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, Colony Commerce Center Traffic Impact Analysis (Urban Crossroads, Inc.) 2016 were utilized in this analysis (34). 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 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 codes and vehicle mixes have been utilized:

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for up to 25 percent of the total square footage for Buildings 1 through 8. The ITE *Trip Generation* manual includes very limited data regarding the types of vehicles that are generated for manufacturing uses (passenger cars and various sizes of trucks). As such, data regarding the vehicle mix has been obtained from a separate report; the City of Fontana *Truck Trip Generation Study* (August 2003) for the manufacturing uses proposed as part of the Project. Buildings 1 through 8 have been identified as manufacturing. The "Light Industrial" vehicle mix data has been utilized as a vehicle mix for manufacturing is not readily available.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 75 percent of the total square footage for Buildings 1 through 8. The ITE *Trip Generation* manual includes very limited data regarding the types of vehicles that are generated for warehousing uses (passenger cars and various sizes of trucks). Data regarding the vehicle mix has therefore been obtained from a separate report; the City of Fontana *Truck Trip Generation Study* (August 2003) for the warehousing use proposed as part of the Project. The "Heavy Warehouse" vehicle mix data has been utilized for all 4 buildings.
- ITE land use code 152 (High-Cube Warehousing) has been used to derive site specific trip generation estimates for Building 9. 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. 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. Similarly, the truck trip generation rate for the weekday AM peak hour is 0.03 (27.3% of the total traffic) and 0.04 (or 33.3% of the total traffic) for the weekday PM peak hour.

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: 22.0% of the total trucks as 2-axle trucks, 17.7% of the total trucks as 3-axle trucks, and 60.3% 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 Colony Commerce Center Project’s vehicular-source emissions are 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 AQIA.

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 (35). 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 sub-regional 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

Trip lengths and VMT estimates employed in this AQIA report generate vehicular-source emissions that would represent a maximum impact scenario. Other Environmental Impact Reports (EIRs) for similar land use projects within the region have utilized these same or similar estimates (36) (37) (38). To maintain analytic consistency and establish the maximum impact scenario noted above, the following approach has been utilized in calculating emissions associated with vehicles accessing the Project.

For passenger car trips, the San Bernardino County CalEEMod default for a one-way trip length of 16.6 miles was assumed. For heavy duty trucks, an average trip length was derived from distances from the Project site to the limits of the South Coast Air Basin (SCAB) as follows. It is appropriate to terminate the VMT calculation at the boundary of the SCAB because any activity beyond that boundary would be speculative, this approach is also consistent with professional industry practice.

- Project site to the Port of Los Angeles/Long Beach: 55 miles;
- Project site to Banning Pass: 54 miles;
- Project site to San Diego County line: 54 miles;
- Project site to Cajon Pass: 30 miles;
- Project site to downtown Los Angeles: 43 miles.

Assuming that 50% of all delivery trips will travel to and from the Project and the Port of Los Angeles/Long Beach, and the remainder as distribution trips to all other locations, the average truck trip length is calculated as 50 miles.

Two separate model runs for the warehouse land uses (Manufacturing, Warehousing, and High-Cube Warehouse) were utilized in order to more accurately model emissions resulting from vehicle operations. The first runs 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 runs analyzed truck emissions, which incorporated an average truck trip length of 50 miles based on the average long-haul truck trips and a fleet mix of the following based on land use:

- Manufacturing: 37.40% LHD, 18.21% MHD, and 44.38% HHD

- Warehousing: 17.04% LHD, 22.85% MHD, 60.71% HHD
- High-Cube Warehouse: 22.03% LHD, 17.66% MHD, and 60.31% HHD

It should be noted that since the CalEEMod model does not provide different land use categories for the Warehousing and High-Cube land uses, for the purposes of this analysis, the Warehousing and High-Cube land uses were weighted and modeled as "Unrefrigerated Warehouse-No Rail." The estimated emissions resulting from vehicle operations are summarized in Table 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 (39). Based on the latest available information from SCAQMD (40); 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 six (6) yard tractors operating at 4 hours a day for 365 days of the year[4] (41). 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 six (6) 89 hp yard forklifts operating at 4 hours a day for 365 days of the year interior to the building.

[4] 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.

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.

For the purposes of the GHGA, forklifts are not included in the calculations since there are no exhaust emissions associated with the forklifts as they are assumed to be electric consistent with industry standards.

3.7 EMISSIONS SUMMARY

GHG Emissions Summary for PA1 and PA2

The Project site for PA1 and PA2 will result in approximately 4,365.21 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 22,129.58 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 previously mentioned in Section 3.4, the Project site contains an existing dairy operations generating 5,456.45 MTCO2e per year. For the purposes of this analysis, credit has been taken for existing GHG emissions. As shown on Table E3-2, the net Project GHG emissions for PA1 and PA2 has the potential to result in a total of approximately 21,038.3 MTCO2e per year.

TABLE 3-1: PA1 AND PA2 GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	**Emissions (metric tons per year)**			
	CO2	**CH4**	**N2O**	**Total CO2E**
Annual construction-related emissions amortized over 30 years	132.63	0.01	0.00	132.88
Area	0.03	0.00	0.00	0.04
Energy	2219.83	0.08	0.02	2228.88
Mobile (Trucks)	18248.85	0.60	0.00	18263.74
Mobile (Passenger Cars)	3863.70	0.09	0.00	3865.84
On-Site Equipment	618.29	18.27	0.00	1075.04
Waste	341.15	12.37	0.03	658.39
Water Usage	11921.50	1.60	0.04	269.98
Total CO_2E (All Sources)	**26,494.79**			
Existing Cow Emissions	***-5,456.45***			
Net Total CO2E (All Sources)	**21,038.3**			

GHG Emissions Summary for PA3

The Project site for PA3 will result in approximately 877.55 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 2,620.27 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 3-2, Project GHG emissions for PA3 has the potential to result in a total of approximately 3,497.82 MTCO2e per year.

TABLE 3-2: PA3 GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	**Emissions (metric tons per year)**			
	CO2	**CH4**	**N2O**	**Total CO2E**
Annual construction-related emissions amortized over 30 years	19.23	0.003	0.00	19.31
Area	5.74E-03	2.00E-05	0.00	6.13E-03
Energy	442.96	0.02	0.00	444.83
Mobile (Trucks)	2,193.37	0.05	0.00	2,194.69
Mobile (Passenger Cars)	425.58	0.003	0.00	425.58
Waste	47.64	2.82	0.00	118.02
Water Usage	238.77	1.75	0.04	295.38
Total CO_2E (All Sources)	**3,497.82**			

GHG Emissions Summary for Project Horizon Year (2040)

As shown on Table 3-3, Project horizon year (2040) GHG emissions would result in 29,992.61 MTCO2e per year.

TABLE 3-3: HORIZON YEAR (2040) GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	**Total CO2e**
PA1 and PA2 Emissions	26,494.79
PA3 Emissions	3,497.82
Total CO_2E (All Sources)	**29,992.61**

4 PROJECT IMPACT ANALYSIS AND MITIGATION MEASURES

Impact GHG-1: The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purposes of reducing the emissions of greenhouse gases.

IMPACT ANALYSIS

As discussed in the Newall Ranch decision, a lead agency may assess the significance of GHG emissions by determining a project's consistency with a local GHG reduction plan or CAP that qualifies under Section 15183.5 of the CEQA Guidelines. The City of Ontario's CAP serves to fulfill this role.

The CAP is designed to ensure that the development accommodated by the buildout of the General Plan supports the goals of Assembly Bill (AB) 32—the Global Warming Solutions Act of 2006. The California Air Resources Board (ARB) adopted the State's strategy for achieving AB 32 targets in its Climate Change Scoping Plan (Scoping Plan) in 2008. The Scoping Plan greenhouse gas reduction goal is to reduce statewide emissions to 1990 levels by 2020. The City of Ontario CAP includes strategies that will achieve this target. The CAP target is to reduce City emissions by the amount recommended in the Scoping Plan for local government of 15 percent below 2008 levels by 2020. This was roughly equivalent to the 28.4 percent overall reduction in statewide emissions from business as usual in 2020. The strategy will continue to provide reductions past 2020 and includes a commitment to update the CAP beginning in 2018. The new plan will include a specific target for GHG reductions for 2030, 2040, and 2050. The targets will be consistent with broader state and federal reduction targets and with the scientific understanding of the needed reductions by 2050.

In determining whether the project conflicts with any applicable plan, policy, or regulation, the California Resources Agency has stated that in order to be used for the purpose of determining significance, a plan must contain specific requirements that result in reductions of greenhouse gas emissions to a less than significant level. The following from CEQA Guidelines Section 15083.5(b) lists the requirements for greenhouse gas reduction plans used for this purpose:

1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:
   a) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
   b) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
   c) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
   d) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

e) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
f) Be adopted in a public process following environmental review.

2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

The CAP meets these requirements as shown below:

- The CAP quantifies emissions for a 2008 base year and future year 2020. The CAP also includes a provision that will require an update beginning in 2018 that will quantify emissions for 2030, 2040, and 2050 for the City.
- The CAP has adopted a target of reducing GHG emissions down to 15 percent below 2008 levels within the City of Ontario by 2020. This reduction target is compliant with AB 32; the AB 32 Climate Change Scoping Plan states: "In recognition of the critical role local governments will play in the successful implementation of AB 32, ARB recommended a greenhouse gas reduction goal for local governments of 15 percent below today's levels by 2020 to ensure that their municipal and community-wide emissions match the State's reduction target" (Scoping Plan page ES-5, ARB December 2008). As such, the City is consistent with the State's efforts to reduce GHG emissions globally and substantially lessen the cumulative contribution.
- The CAP analyzed the GHG emissions resulting from specific sources under the jurisdiction of the City or within the City's ability to influence including source categories common to most climate action plans in California.
- The CAP identified specific measures that would reduce GHG emissions by the required amount from regulations that apply to existing and new development and local measures that apply to the sources of emissions including:
  - Land Use and Transportation
  - Transportation Facilities Strategies
  - Transportation Demand Strategies
  - Energy Conservation Strategies for New and Existing Buildings
  - Waste Diversion and Recycling and Energy Recovery
  - Strategies for Existing Development
  - Municipal Strategies

- The CAP includes procedures for tracking and monitoring plan performance measures including annual and triennial data collection and reporting to identify trends and potential shortfalls requiring corrective actions.
- The CAP was included as part of a public review process and was adopted and certified in a public hearing on December 16, 2014.
- The CAP includes binding and enforceable requirements that apply to development projects to ensure plan consistency. All emission reductions required to reach the plan 2020 targets are achieved through compliance with adopted regulations, ordinances, and code enforced by the State and the City. Reductions from mobile sources anticipated through implementation of the City's land use plan are enforced through the development review process. Conditions of approval may be applied for measures requiring project specific actions not specifically addressed by the regulation or code.

The point values in the Screening Tables were derived from the projected emissions reductions that would be achieved by each of the reduction measures associated with new development within the City of Ontario CAP. The points within the Screening Tables were proportioned by residential unit or square feet of commercial/industrial uses. This was accomplished by taking the predicted growth in households and commercial uses in 2020 and proportioning the appropriate reduction quantities for new development to the residential, commercial, and industrial land use sectors within the Screening Table. The result is point values that are proportioned by residential unit or commercial/industrial square feet. Because of this, the size of the project is not relevant to the Screening Table. Regardless of size, each project needs to garnish 100 points to demonstrate consistency with the CAP. Efficiency, not size of the project, is critical.

Within the City measures 39,769 MT CO2e will be reduced using the Performance Standard for new development. The Performance Standard is implemented through Screening Tables and the point allocation within the Screening Tables are tied to 39,769 MT CO2e of reductions.

The first step in allocating point values is to determine the number of new homes and commercial buildings that are anticipated by year 2020. The City predicts that 16,489 new residential units will be needed by 2020 to accommodate the population growth by 2020 and a total of approximately 36,940,000 square feet of new commercial and industrial buildings within the City is needed to accommodate anticipated job growth.

Approximately 1,649 new residential units and 3,694,000 square feet of new commercial and industrial buildings within the City are anticipated to either use the screening tables or provide an independent analysis demonstrating reductions. Evaluating the growth in residential and commercial/industrial land uses, approximately 44.55% is attributable to residential and 55.45% attributable to commercial/industrial land uses. Using those ratios, the Performance Standard will reduce 17,717 MT CO2e from residential development and 22,052 MT CO2e from commercial/industrial development by 2020.

Dividing the 17,717 MT CO2e reductions of emissions afforded the Screening Table implementation of the Performance Standard for new residential development by the anticipated 14,840 new residential units that will be built yields 1.19 MT CO2e per residential unit that needs to be reduced to fulfill the anticipated reductions of the CAP. A similar process was done for commercial/industrial uses resulting in approximately 0.66 MT CO2e per 1,000 gross square feet of commercial/industrial building area.

Levels of reduction efficiency for typical residential units in this climate zone yields:

0.012 MT CO2e per Point per Residential Unit

The levels of reduction efficiency for the mix of commercial/industrial uses in this climate zone yields:

0.007 MTCO2e per Point per 1,000 Sq. Ft. of gross Commercial/Industrial building area

Since each residential unit needs to reduce 1.19 MT CO2e and each 1,000 square feet of commercial/industrial building area needs to reduce 0.66 MT CO2e, each project needs to gain 100 points to provide the expected reductions from the Performance standard.

Pursuant to the CAP, Projects that achieve at least 100 points based on the City's screening tables are determined to be consistent with the reduction quantities anticipated in the City's CAP. As such, further project-specific GHG quantification would not be required. Consistent with CEQA guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

In order to enforce the requirements of the CAP Screening Tables, Mitigation Measure GHG-1 requires that the project implement at least 100 points from the City of Ontario Greenhouse Gas Emissions Screening Tables. Therefore, since the project will incorporate at least 100 points from the screening tables, the project's impact on greenhouse gas emissions is less than significant.

LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Potentially significant impact.

MITIGATION MEASURES

MM GHG-1 Prior to issuance of building permits for each planning area, the applicant shall provide documentation to the City of Ontario Planning Department demonstrating that each planning area will implement project features that will achieve at least 100 points from the City of Ontario's Greenhouse Gas Emissions Screening Tables or achieve equivalent emission reductions from other measures approved by the City of Ontario.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Less than significant impact.

Impact GHG-2: The proposed project is consistent with the ARB Scoping Plan and regulations adopted for the purpose of reducing the emissions of greenhouse gases.

SUBSTANTIAL EVIDENCE SUPPORTING SCOPING PLAN REGULATORY PROGRAM CONSISTENCY THRESHOLD

Impact GHG-2 assesses the project's consistency with the overarching goals of AB 32 and the strategies of ARB's Scoping Plan as well as the regulatory measures adopted to further AB 32's goals.

CEQA allows lead agencies to consider whether regulatory programs are adequate to reduce a project's potentially significant environmental effects. Under AB 32, the State's emission inventory must be reduced to 1990 levels by 2020. One of the questions in the CEQA Guidelines checklist regarding GHG asks whether a project conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The ARB Scoping Plan and its implementing regulations provide the regulatory framework for the State to achieve its target and to track its progress. Moreover, *Newhall Ranch* describes that a lead agency may assess consistency with AB 32's goal in whole or in part by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities … [Newhall, p. 25.] *Newhall Ranch* further describes that "[t]o the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)"

An important underlying assumption when making a significance determination based on compliance with regulations is that the regulations are adequate to address the impact to a less than significant level. If compliance with regulations is sufficient to mitigate the impact to a less than significant level, then a project is not required to provide any additional mitigation to further reduce the impact. If, however, regulations are only partially effective in mitigating the impacts, or if the regulatory program is not fully implemented, there may be a gap between the amount that can be reasonably claimed from regulation and the amount needed to achieve the less than significant target.

The CARB 2008 Scoping Plan includes a regulatory strategy that will result in the State achieving the AB 32 target by 2020, accounting for growth projected by 2020. The measures in the 2008 Scoping Plan have all been in place since 2012. In the 2014 Scoping Plan Update was adopted in

May 2014, however, ARB confirmed that the State had now adopted sufficient laws and regulations to achieve the AB 32 target and no new measures or targets were identified.

MEASURES OF PLAN CONSISTENCY OR CONFLICT

Determining project consistency with greenhouse gas plans presents unique challenges because the impact is global and inherently cumulative in nature and the solutions require global and local action. A single state or nation or project cannot solve the problem and there are no binding international agreements in place that will achieve the amount of reductions scientists estimate will be required to prevent catastrophic climate change. California recognized this and decided to identify reduction targets for itself in AB 32 that would lead to California providing its fair share of reductions regardless of what other states or the federal government or other countries do to reduce their fair share. This leadership by example is hoped to spur other governments to take action to reduce their greenhouse gas impacts. California through AB 32 set its fair share reduction at the amount required to reduce emissions to 1990 levels by 2020.

The analysis below qualitatively examines the measures contained in the applicable plans and subsequent adopted regulations and how they interrelate with the project to achieve the State's goals.

APPLICABLE PLANS

The Scoping Plan provides the State's overall strategy in the form of measures that apply to emission sectors that comprise the State's greenhouse gas emission inventory. The Scoping Plan is the State's view from 30,000 feet for achieving the AB 32 mandates. The State's on-the-ground implementation strategy primarily takes the form of source specific regulations adopted by State agencies such as ARB, and the CEC. The State has adopted regulations described earlier in this section to implement the Scoping Plan measures and achieve the emission reductions required. The Scoping Plan envisions a limited role for local government in implementing the State's GHG reduction strategy focusing on local government's authority over land use and some transportation projects.

RELATING PLANS TO PROJECTS

The ARB Scoping Plan examines California's greenhouse gas profile in two ways – emissions-based and end use (demand side)-based. While it is possible to illustrate the inventory many different ways, no chart or graph can fully display how diverse economic sectors fit together. California's economy is a web of activity where seemingly independent sectors and subsectors operate interdependently and often synergistically. For example, reductions in water use reduce the need to pump water, directly lowering electricity use and associated greenhouse gas emissions. Similarly, reducing the generation of waste reduces the need to transport the waste to landfills – lowering transportation emissions and, possibly, landfill methane emissions. Increased recycling or re-use reduces the carbon emissions embedded in products – it takes less energy to make a soda can from recycled aluminum than from virgin feedstock.

Development projects are assessed for direct emissions from combustion of fuels for heating buildings and indirect emissions for fuel use from transportation activities associated with the project. Development projects are also end users of electricity that is often generated by power plants that are located far from the project site. Project emissions from electricity consumption are based on the projected use and the average emission rate for the electric utility serving the project.

The regulations implementing the Scoping Plan apply directly to the project in regards to energy efficiency of the buildings, water conservation, and refrigerant usage. Scoping Plan measures regarding motor vehicle fuel efficiency apply to vehicle manufacturers, but result in lower emissions from vehicles accessing the project site. The Renewable Portfolio Standard applies to electric utilities, but reduce emissions related to electricity used by the project. Transportation sector measures from the Scoping Plan are also implemented through SB 375 - The Sustainable Communities and Climate Protection Act of 2008 which targets emissions from the transportation system through actions that make transportation more efficient at the regional level. Individual development projects have no direct requirements from SB 375 but may benefit from being located in areas designated as Transit Priority Areas and from system-wide infrastructure improvements that reduce congestion and improve traffic flow for all system users.

Development projects are constructed to accommodate California's population and economic growth accounted for by the Scoping Plan. As described above, the regulations implementing the Scoping Plan touch many of the operations of the buildings and the day to day activities of people that will work and shop at the project. Most of the greenhouse gas regulations apply behind the scenes so that they are not noticed by end users of the project except to the extent that the types of cars available for purchase are more fuel efficient. The developer is directly impacted by building energy efficiency and conservation regulations that must be followed during building construction. The cost of the efficiency measures is built into the construction cost of the building and rents but the owners and tenants benefit from lower energy bills and water bills resulting from the increased energy efficiency.

The Scoping Plan includes measures that reduce emissions from the following sectors:

- Transportation
- Electricity and Natural Gas
- Water
- Green Building
- Industry
- Recycling and Waste Management
- Forests
- High Global Warming Potential
- Agriculture

The 2008 Scoping Plan included 18 measures to reduce emissions from the various sectors. The measures often overlap and have interdependent relationships with other measures as described earlier. The measures are implemented with regulations and programs applicable to specific sources of emissions. More detailed descriptions of the measures are provided in Scoping Plan Appendix C, Sector Overview and Emission Reduction Strategies. The State has been very aggressive in adopting regulations to implement the Scoping Plan and as a result, the state is on track to achieve the 2020 target as discussed above.

Most of the reductions required to reach AB 32's 2020 reduction target will be achieved by regulations that apply to both existing and new development, including the RPS, Pavley standards, LCFS, landfill regulations, regulations and programs on high global warming potential (GWP) gases, initiatives on water conservation (such as SB X7-7), and the indirect influence of the Cap and Trade system on electricity and transportation fuel prices.

The Project's significance with respect to consistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emission have been evaluated below and addressed for each sector.

<u>Transportation</u>

Approximately 91 percent of the Project's horizon year GHG emissions as summarized in Table 3-2 are from transportation (mobile sources). Transportation emissions are heavily regulated at the source, including, but not limited to engine emissions standards and fuel requirements. Because these regulations and policies reduce GHG emissions at the source, the Project will be subject to and therefore not conflict with these transportation measures.

State Regulations/Scoping Plan Measures

Adopted regulations that will reduce the Project's GHG emissions through engine emission standards and fuel requirements are described in detail in Section 2.7 above. These regulations include:

<u>California Light-Duty Vehicle Greenhouse Gas Standards</u>

AB 1493/Pavley I and II required CARB to adopt regulations to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 through 2016.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30-percent reduction. The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025.

This measure applies to all new passenger vehicles starting with model year 2009. The project is consistent with this measure and its implementation as it would apply to all new passenger vehicles purchased in California. As such, any passenger vehicles associated with construction and operation of the project would be required to comply with the Pavley emissions standards.

Executive Order S-01-07 – Low Carbon Fuel Standard (LCFS)

The LCFS regulation became fully effective in 2010 and will reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. The proposed Project will utilize these emissions reductions as they are implemented into 2020 from all operational mobile emissions sources.

This measure applies to transportation fuels utilized by vehicles in California. The project is consistent with this measure and its implementation as motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.

Medium/Heavy-Duty Vehicles

As part of the Heavy-duty Vehicle Greenhouse Gas Regulation, CARB also implemented the Drayage Truck Regulation and Truck and Bus Regulation. These three regulations were collectively adopted to address and reduce emissions from trucks. Since the proposed Project has a large truck component, these regulations will aid in reducing GHG emissions from the Project.

This measure applies to medium and heavy-duty vehicles that operate in the state, and thus would apply to medium and heavy-duty vehicles that serve the project. The project is consistent with this measure and its implementation as medium and heavy-duty vehicles associated with construction and operation of the project would be required to comply with the requirements of this regulation.

Tractor-Trailer Greenhouse Gas Regulation

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways.

Cap-and-Trade Program

Notably, the Cap-and-Trade Program covers transportation fuel suppliers to address emissions from fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are supplied, or delivered into commerce. Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all of GHG emissions from CEQA projects associated with VMT are covered by the Cap-and-Trade Program.

In September 2013, the SCAQMD adopted two Negative Declarations stating that GHG emissions subject to the CARB Cap-and-Trade Program do not count against the 10,000 MT CO2e significance threshold the SCAQMD applies when acting as a lead agency. In addition, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has recently taken this one issue step further and adopted a policy: "CEQA Determinations of Significance for Projects Subject to CARB's GHG Cap-and-Trade Regulation." This policy applies when the SJVAPCD is the lead agency and when it is a responsible agency. In short, the SJVAPCD "has determined that GHG emissions increases that are covered under CARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA…." The SJVAPCD classifies CARB's Cap-and-Trade Program as an approved GHG emission reduction plan or GHG mitigation program under CEQA Guidelines Section 15064(h) (3). The policy acknowledges that "combustion of fossil fuels including transportation fuels used in California (on and off road including locomotives), not directly covered at large sources, are subject to Cap-and-Trade requirements, with compliance obligations starting in 2015." As such, the SJVAPCD concludes that GHG emissions associated with vehicle miles traveled (VMT) cannot constitute significant increases under CEQA. This regulatory conclusion is therefore directly applicable to the proposed Project because VMT is by far the largest source of project GHG emissions.

Since the proposed Project has a large mobile source component and Cap-and-Trade emission reductions are difficult to calculate on a project-level, the proposed Project's mobile source emissions are very conservative, making the total emission calculations conservative. The phase-in of the Cap-and-Trade Program compliance obligations for transportation fuel providers further reduces GHG emissions attributable to mobile sources, beyond the GHG emissions reductions achieved and modeled by the Pavley Standard and LCFS.

<u>Energy</u>

The second largest source, almost five percent, of GHG emissions shown in Table 3-2 from the Project is energy consumption from electricity and natural gas.

State Regulations/Scoping Plan Measures

Energy-related emissions are also heavily regulated at the source, including, but not limited to energy efficiency standards and renewable energy requirements. Because these regulations and polices reduce GHG emissions at the source, the Project will be subject to and therefore implement these energy measures.

<u>Energy Efficiency – Title 24/CalGreen</u>

As previously discussed in Section 2.7, the CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent above that achieved by 2013 Title 24 (CEC 2015).

The proposed Project is also subject to the CalGreen Code Title 24 building energy efficiency requirements that offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

Renewable Portfolio Standard

As previously described above in Section 3.7.2, California's Renewable Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy sources to 33 percent of total retail sales by 2020 as established under SB 1078 and accelerated under SB 107 and SBX1-2. Additionally, SB 1368 prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. As a customer of Southern California Edison, the proposed Project will purchase from an increasing supply of renewable energy sources and more efficient baseload generations and thereby reduce GHG emissions.

Million Solar Roofs Program

The Million Solar Roofs Program set a goal to install 3,000 megawatts (MW) of new solar capacity by 2017 – moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. The Million Solar Roofs Initiative is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time.

The project is consistent with this scoping plan measure as the project will provide solar ready roofs.

Water

GHG emissions also result from electricity consumption related to water supply, treatment, and distribution, as well as wastewater treatment. As shown in Table 3-2, the Project's GHG emissions related to water consumption are less than one percent of total GHG emissions.

State Regulations/Scoping Plan Measures

Renewable Portfolio Standard Related to Water Supply and Conveyance

This measure would increase electricity production from eligible renewable power sources to 33% by 2020. A reduction in GHG emissions results from replacing natural gas-fired electricity production with zero GHG emitting renewable sources of power. By 2020, this requirement will reduce emissions from electricity used for water supply and conveyance in California by approximately 21.3 MMT CO2e, representing 15.2% of emissions from electricity generation (in-state and imports).

As previously discussed, as a customer of Southern California Edison, the proposed Project will purchase from an increasing supply of renewable energy sources and more efficient baseload generations consistent with RPS and thereby reduce GHG emissions.

Model Water Efficient Landscape Ordinance (MWELO)

The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance.

The project is required to comply with the MWELO as required by City of Ontario which will result in a minimum of 20 percent reduced water use for outdoor irrigation. The project is consistent with this measure as it will result in a minimum 20 percent reduced water use pursuant to the Project Design Features identified herein.

Waste Diversion

Disposal of solid waste in landfills contributes less than three percent of GHG emissions from the project as shown on Table 3-2.

State Regulations/Scoping Plan

The CARB Scoping Plan recommends three measures for reducing emissions from Municipal Solid Waste at the state level, including: 1) landfill methane control; 2) increase the efficiency of landfill methane capture; and 3) high recycling/zero waste. CARB is in the process of developing a discrete early action program for methane recovery (1), which was adopted in early 2010. This measure is expected to result in a 1.0 MMT CO2e reduction by 2020. Other measures proposed by CARB include increasing efficiency of landfill methane capture (2) and instituting high recycling/zero waste policies (3). Potential reductions associated with these measures are still to be determined.

Implementation of the CalGreen code and state measures reduce the amount of solid waste disposed of in landfills. The CalGreen code requires jurisdictions to divert a minimum of 50% of their nonhazardous construction and demolition waste from landfills. In addition, SB 341 amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020, and annually thereafter. The proposed Project is subject to these regulations as well as SB 341's policy goal and thereby reduce GHG emissions.

Consistency with Executive Orders S-3-05 and B-30-15

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. The goal of Executive Order S-3-05 is to reduce GHG emissions to 1990 levels by 2020 was codified by the Legislature as the 2006 Global

Warming Solutions Act (AB 32). The Project, as analyzed above, is consistent with AB 32. Therefore, the Project does not conflict with this component of Executive Order S-3-05. The Executive Orders also established goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The goal of reducing GHG emissions to 40 percent below 1990 levels was codified in Senate Bill 32 (SB 32). According to research conducted by the Lawrence Berkeley National Laboratory and supported by the CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The goal of 80 percent below 1990 levels by 2050 has not been codified. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its Climate Change Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update, however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; largescale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." Due to the technological shifts required and the unknown parameters of the regulatory framework in 2030 and 2050, quantitatively analyzing the Project's impacts further relative to the 2030 and 2050 goals is speculative for purposes of CEQA.

Although the proposed Project's emissions levels in 2030 and 2050 cannot be reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the proposed Project's emissions level (16,481.15 metric tons of CO_2e per year) to decline as the regulatory initiatives identified by ARB in the First Scoping Plan Update are implemented, and other technological innovations occur. Stated differently, the proposed Project's emissions total presented in Table 3-2, represents the maximum emissions inventory for the Project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, given the reasonably anticipated decline in proposed project emissions once fully constructed and operational, the proposed project is consistent with the Executive Orders' goals.

The Scoping Plan recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the state on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." Also, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed Project's post-2020 emissions level to the extent applicable by law:

1. Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed Project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the proposed Project's emissions level.
2. Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the proposed Project's emissions level.
3. Water Sector: The proposed Project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
4. Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the proposed Project's emissions level.

While the 2020 cap would remain in effect post-2020, the Cap-and-Trade Program is not currently scheduled to extend beyond 2020 in terms of additional GHG emissions reductions. However, ARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The "recommended action" in the First Update for the Cap-and-Trade Program is: "Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment, to provide market certainty and address a mid-term emissions target." The "expected completion date" for this recommended action is 2017. In addition to CARB's First Update, in January 2015, during his inaugural address, Governor Jerry Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

(1) increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030; (2) cutting the petroleum use in cars and trucks in half; and (3) doubling the efficiency of existing buildings and making heating fuels cleaner. These expressions of Executive Branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change (Brown 2015) (42). Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target (Energy and Economics (2015) (43).

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends, such as the increasing importance of web-based shopping, the emergence of different driving patterns by the "millennial" generation and the increasing effect of Web-based applications on transportation choices, are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years, and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been adopted; nevertheless, it can be anticipated that operation of the project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80-percent reduction below 1990 levels by 2050. Note again that the project already includes several project design features that exceed regulatory requirements and reduce vehicle miles traveled.

Accordingly, taking into account the proposed project's emissions, project design features, standard measures and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project furthers the State's goals of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80-percent reduction below 1990 levels by 2050, and does not obstruct their attainment.

Summary

The project is consistent with all applicable Scoping Plan goals and policies as evaluated herein. Additionally, the project incorporates a number of project design features and mitigation measures that go beyond the Scoping Plan requirements that would further minimize GHG emissions. The project promotes the goals of the Scoping Plan through implementation of the design measures that reduce energy consumption, and water consumption, and reduction in vehicle miles traveled. In addition, the project is required to comply with the regulations described in this section that have been adopted to implement the Scoping Plan and to achieve the AB 32 2020 target. Therefore, the project does not conflict with any plans to reduce GHG emissions and furthers the State's goals relative to this impact. The impact is less than significant.

LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Less than significant impact.

MITIGATION MEASURES

No mitigation is necessary.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Less than significant impact.

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6 CERTIFICATION

The contents of this GHGA represent an accurate depiction of the greenhouse gas impacts associated with the proposed Colony Commerce Center 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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EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – 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

Colony Commerce Center 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
Manufacturing	175.33	1000sqft	4.03	175,330.00	0
Unrefrigerated Warehouse-No Rail	1,514.67	1000sqft	34.77	1,514,670.00	0
Parking Lot	45.11	Acre	45.11	1,964,991.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction Only

Land Use -

Construction Phase - Based on consulatation with the client and a 2019 opening year

Off-road Equipment - Based on consultation with the client

Off-road Equipment - Based on consultation with the client and 8 hour workday

Off-road Equipment - Based on consultation with the client

Off-road Equipment - Based on consultation with the client

Off-road Equipment -

Trips and VMT -

Demolition -

Grading -

Architectural Coating - Rule 1113

Vehicle Trips - Construction only

Road Dust -

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 -

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tblAreaCoating	Area_Nonresidential_Interior	2535000	2508740
tblAreaCoating	Area_Parking	117899	47976

Colony Commerce Center Construction Unmitigated - San Bernardino-South Coast County, Annual

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tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	LDA	308.85	321.54
tblVehicleEF	LDA	63.35	65.27
tblVehicleEF	LDA	0.54	0.54
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.11	0.13
tblVehicleEF	LDA	1.7480e-003	1.7610e-003
tblVehicleEF	LDA	2.3410e-003	2.3620e-003
tblVehicleEF	LDA	1.6120e-003	1.6250e-003
tblVehicleEF	LDA	2.1530e-003	2.1730e-003
tblVehicleEF	LDA	0.12	0.14
tblVehicleEF	LDA	0.16	0.18
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.10	0.12
tblVehicleEF	LDA	3.0960e-003	3.2250e-003
tblVehicleEF	LDA	6.5700e-004	6.8000e-004
tblVehicleEF	LDA	0.12	0.14
tblVehicleEF	LDA	0.16	0.18
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.02	0.03

tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.13
tblVehicleEF	LDA	5.6310e-003	6.4390e-003
tblVehicleEF	LDA	8.6650e-003	0.01
tblVehicleEF	LDA	0.68	0.76
tblVehicleEF	LDA	1.65	1.87
tblVehicleEF	LDA	275.91	287.22
tblVehicleEF	LDA	63.35	65.27
tblVehicleEF	LDA	0.54	0.54
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.12	0.13
tblVehicleEF	LDA	1.7480e-003	1.7610e-003
tblVehicleEF	LDA	2.3410e-003	2.3620e-003
tblVehicleEF	LDA	1.6120e-003	1.6250e-003
tblVehicleEF	LDA	2.1530e-003	2.1730e-003
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.12	0.14
tblVehicleEF	LDA	2.7640e-003	2.8790e-003
tblVehicleEF	LDA	6.6200e-004	6.8600e-004
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.02

tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.13	0.15
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	2.11	2.39
tblVehicleEF	LDT1	4.94	5.45
tblVehicleEF	LDT1	340.78	350.33
tblVehicleEF	LDT1	75.92	77.37
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.25
tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	3.2070e-003	3.4520e-003
tblVehicleEF	LDT1	4.3570e-003	4.6370e-003
tblVehicleEF	LDT1	2.9540e-003	3.1830e-003
tblVehicleEF	LDT1	4.0080e-003	4.2700e-003
tblVehicleEF	LDT1	0.22	0.23
tblVehicleEF	LDT1	0.40	0.43
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.05	0.06
tblVehicleEF	LDT1	0.24	0.26
tblVehicleEF	LDT1	0.36	0.41
tblVehicleEF	LDT1	3.4370e-003	3.5370e-003
tblVehicleEF	LDT1	8.4700e-004	8.7100e-004
tblVehicleEF	LDT1	0.22	0.23
tblVehicleEF	LDT1	0.40	0.43
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	0.07	0.09

tblVehicleEF	LDT1	0.24	0.26
tblVehicleEF	LDT1	0.40	0.45
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	2.52	2.85
tblVehicleEF	LDT1	4.07	4.49
tblVehicleEF	LDT1	371.05	381.30
tblVehicleEF	LDT1	75.92	77.37
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.20	0.23
tblVehicleEF	LDT1	0.27	0.30
tblVehicleEF	LDT1	3.2070e-003	3.4520e-003
tblVehicleEF	LDT1	4.3570e-003	4.6370e-003
tblVehicleEF	LDT1	2.9540e-003	3.1830e-003
tblVehicleEF	LDT1	4.0080e-003	4.2700e-003
tblVehicleEF	LDT1	0.45	0.48
tblVehicleEF	LDT1	0.50	0.54
tblVehicleEF	LDT1	0.32	0.34
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.24	0.26
tblVehicleEF	LDT1	0.30	0.34
tblVehicleEF	LDT1	3.7450e-003	3.8530e-003
tblVehicleEF	LDT1	8.3200e-004	8.5400e-004
tblVehicleEF	LDT1	0.45	0.48
tblVehicleEF	LDT1	0.50	0.54
tblVehicleEF	LDT1	0.32	0.34
tblVehicleEF	LDT1	0.08	0.10

tblVehicleEF	LDT1	0.24	0.26
tblVehicleEF	LDT1	0.33	0.37
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	2.00	2.27
tblVehicleEF	LDT1	4.85	5.35
tblVehicleEF	LDT1	333.64	343.01
tblVehicleEF	LDT1	75.92	77.37
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.21	0.24
tblVehicleEF	LDT1	0.29	0.32
tblVehicleEF	LDT1	3.2070e-003	3.4520e-003
tblVehicleEF	LDT1	4.3570e-003	4.6370e-003
tblVehicleEF	LDT1	2.9540e-003	3.1830e-003
tblVehicleEF	LDT1	4.0080e-003	4.2700e-003
tblVehicleEF	LDT1	0.23	0.25
tblVehicleEF	LDT1	0.47	0.50
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.05	0.06
tblVehicleEF	LDT1	0.28	0.30
tblVehicleEF	LDT1	0.36	0.40
tblVehicleEF	LDT1	3.3640e-003	3.4620e-003
tblVehicleEF	LDT1	8.4600e-004	8.7000e-004
tblVehicleEF	LDT1	0.23	0.25
tblVehicleEF	LDT1	0.47	0.50
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.07	0.08

tblVehicleEF	LDT1	0.28	0.30
tblVehicleEF	LDT1	0.39	0.44
tblVehicleEF	LDT2	8.5630e-003	9.7720e-003
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	1.02	1.15
tblVehicleEF	LDT2	2.36	2.69
tblVehicleEF	LDT2	386.16	399.12
tblVehicleEF	LDT2	86.74	88.99
tblVehicleEF	LDT2	0.18	0.18
tblVehicleEF	LDT2	0.12	0.14
tblVehicleEF	LDT2	0.22	0.26
tblVehicleEF	LDT2	1.7360e-003	1.7440e-003
tblVehicleEF	LDT2	2.4350e-003	2.4570e-003
tblVehicleEF	LDT2	1.5970e-003	1.6050e-003
tblVehicleEF	LDT2	2.2400e-003	2.2610e-003
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.17	0.19
tblVehicleEF	LDT2	3.8710e-003	4.0030e-003
tblVehicleEF	LDT2	9.0800e-004	9.3700e-004
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.03	0.04

tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.18	0.21
tblVehicleEF	LDT2	9.7130e-003	0.01
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	1.24	1.40
tblVehicleEF	LDT2	1.95	2.23
tblVehicleEF	LDT2	421.64	435.78
tblVehicleEF	LDT2	86.74	88.99
tblVehicleEF	LDT2	0.18	0.18
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.21	0.24
tblVehicleEF	LDT2	1.7360e-003	1.7440e-003
tblVehicleEF	LDT2	2.4350e-003	2.4570e-003
tblVehicleEF	LDT2	1.5970e-003	1.6050e-003
tblVehicleEF	LDT2	2.2400e-003	2.2610e-003
tblVehicleEF	LDT2	0.16	0.18
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.14	0.16
tblVehicleEF	LDT2	4.2290e-003	4.3730e-003
tblVehicleEF	LDT2	9.0100e-004	9.2900e-004
tblVehicleEF	LDT2	0.16	0.18
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.04	0.04

tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.15	0.18
tblVehicleEF	LDT2	8.3210e-003	9.4960e-003
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.96	1.09
tblVehicleEF	LDT2	2.32	2.64
tblVehicleEF	LDT2	377.78	390.45
tblVehicleEF	LDT2	86.74	88.99
tblVehicleEF	LDT2	0.18	0.18
tblVehicleEF	LDT2	0.12	0.13
tblVehicleEF	LDT2	0.22	0.26
tblVehicleEF	LDT2	1.7360e-003	1.7440e-003
tblVehicleEF	LDT2	2.4350e-003	2.4570e-003
tblVehicleEF	LDT2	1.5970e-003	1.6050e-003
tblVehicleEF	LDT2	2.2400e-003	2.2610e-003
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.16	0.19
tblVehicleEF	LDT2	3.7870e-003	3.9150e-003
tblVehicleEF	LDT2	9.0800e-004	9.3600e-004
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.03	0.04

tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.18	0.21
tblVehicleEF	LHD1	5.8330e-003	5.9680e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.15
tblVehicleEF	LHD1	1.36	1.48
tblVehicleEF	LHD1	3.09	3.27
tblVehicleEF	LHD1	9.23	9.22
tblVehicleEF	LHD1	625.60	630.95
tblVehicleEF	LHD1	32.09	32.67
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.53	2.64
tblVehicleEF	LHD1	1.07	1.09
tblVehicleEF	LHD1	9.5300e-004	9.4200e-004
tblVehicleEF	LHD1	0.01	9.9880e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1540e-003	1.2370e-003
tblVehicleEF	LHD1	9.1200e-004	9.0100e-004
tblVehicleEF	LHD1	2.5070e-003	2.4970e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0630e-003	1.1410e-003
tblVehicleEF	LHD1	3.9400e-003	4.0030e-003
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8690e-003	1.8710e-003

tblVehicleEF	LHD1	0.10	0.10
tblVehicleEF	LHD1	0.35	0.34
tblVehicleEF	LHD1	0.32	0.33
tblVehicleEF	LHD1	9.2000e-005	9.3000e-005
tblVehicleEF	LHD1	6.1490e-003	6.2050e-003
tblVehicleEF	LHD1	3.7900e-004	3.8900e-004
tblVehicleEF	LHD1	3.9400e-003	4.0030e-003
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8690e-003	1.8710e-003
tblVehicleEF	LHD1	0.12	0.13
tblVehicleEF	LHD1	0.35	0.34
tblVehicleEF	LHD1	0.35	0.37
tblVehicleEF	LHD1	5.8330e-003	5.9680e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.15
tblVehicleEF	LHD1	1.39	1.50
tblVehicleEF	LHD1	2.89	3.06
tblVehicleEF	LHD1	9.23	9.22
tblVehicleEF	LHD1	625.60	630.95
tblVehicleEF	LHD1	32.09	32.67
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.37	2.47
tblVehicleEF	LHD1	1.02	1.03
tblVehicleEF	LHD1	9.5300e-004	9.4200e-004

tblVehicleEF	LHD1	0.01	9.9880e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1540e-003	1.2370e-003
tblVehicleEF	LHD1	9.1200e-004	9.0100e-004
tblVehicleEF	LHD1	2.5070e-003	2.4970e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0630e-003	1.1410e-003
tblVehicleEF	LHD1	7.8390e-003	7.9950e-003
tblVehicleEF	LHD1	0.14	0.14
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	4.3490e-003	4.4070e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.35	0.34
tblVehicleEF	LHD1	0.30	0.32
tblVehicleEF	LHD1	9.2000e-005	9.3000e-005
tblVehicleEF	LHD1	6.1490e-003	6.2060e-003
tblVehicleEF	LHD1	3.7600e-004	3.8500e-004
tblVehicleEF	LHD1	7.8390e-003	7.9950e-003
tblVehicleEF	LHD1	0.14	0.14
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	4.3490e-003	4.4070e-003
tblVehicleEF	LHD1	0.12	0.13
tblVehicleEF	LHD1	0.35	0.34
tblVehicleEF	LHD1	0.33	0.35
tblVehicleEF	LHD1	5.8330e-003	5.9680e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02

tblVehicleEF	LHD1	0.15	0.15
tblVehicleEF	LHD1	1.36	1.47
tblVehicleEF	LHD1	3.03	3.21
tblVehicleEF	LHD1	9.23	9.22
tblVehicleEF	LHD1	625.60	630.95
tblVehicleEF	LHD1	32.09	32.67
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	2.48	2.60
tblVehicleEF	LHD1	1.05	1.07
tblVehicleEF	LHD1	9.5300e-004	9.4200e-004
tblVehicleEF	LHD1	0.01	9.9880e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1540e-003	1.2370e-003
tblVehicleEF	LHD1	9.1200e-004	9.0100e-004
tblVehicleEF	LHD1	2.5070e-003	2.4970e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0630e-003	1.1410e-003
tblVehicleEF	LHD1	4.4110e-003	4.5270e-003
tblVehicleEF	LHD1	0.13	0.14
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8450e-003	1.8500e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.37	0.37
tblVehicleEF	LHD1	0.32	0.33
tblVehicleEF	LHD1	9.2000e-005	9.3000e-005
tblVehicleEF	LHD1	6.1490e-003	6.2050e-003

tblVehicleEF	LHD1	3.7800e-004	3.8700e-004
tblVehicleEF	LHD1	4.4110e-003	4.5270e-003
tblVehicleEF	LHD1	0.13	0.14
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8450e-003	1.8500e-003
tblVehicleEF	LHD1	0.12	0.13
tblVehicleEF	LHD1	0.37	0.37
tblVehicleEF	LHD1	0.35	0.36
tblVehicleEF	LHD2	4.1420e-003	4.2750e-003
tblVehicleEF	LHD2	6.7020e-003	7.7100e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.70	0.79
tblVehicleEF	LHD2	1.51	1.65
tblVehicleEF	LHD2	14.38	14.39
tblVehicleEF	LHD2	626.67	634.49
tblVehicleEF	LHD2	25.83	26.33
tblVehicleEF	LHD2	5.6710e-003	5.9060e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	2.14	2.37
tblVehicleEF	LHD2	0.62	0.65
tblVehicleEF	LHD2	1.3180e-003	1.3160e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.9900e-004	5.4700e-004
tblVehicleEF	LHD2	1.2610e-003	1.2590e-003
tblVehicleEF	LHD2	2.6700e-003	2.6640e-003

tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.5900e-004	5.0300e-004
tblVehicleEF	LHD2	1.6180e-003	1.7430e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	8.1500e-004	8.5500e-004
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.15	0.17
tblVehicleEF	LHD2	1.4000e-004	1.4100e-004
tblVehicleEF	LHD2	6.1020e-003	6.1810e-003
tblVehicleEF	LHD2	2.8700e-004	2.9400e-004
tblVehicleEF	LHD2	1.6180e-003	1.7430e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	8.1500e-004	8.5500e-004
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.17	0.18
tblVehicleEF	LHD2	4.1420e-003	4.2750e-003
tblVehicleEF	LHD2	6.8110e-003	7.8410e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.70	0.79
tblVehicleEF	LHD2	1.42	1.55
tblVehicleEF	LHD2	14.38	14.39
tblVehicleEF	LHD2	626.67	634.49

tblVehicleEF	LHD2	25.83	26.33
tblVehicleEF	LHD2	5.6710e-003	5.9060e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	2.01	2.23
tblVehicleEF	LHD2	0.59	0.62
tblVehicleEF	LHD2	1.3180e-003	1.3160e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.9900e-004	5.4700e-004
tblVehicleEF	LHD2	1.2610e-003	1.2590e-003
tblVehicleEF	LHD2	2.6700e-003	2.6640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.5900e-004	5.0300e-004
tblVehicleEF	LHD2	3.1480e-003	3.4040e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.8200e-003	1.9350e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.14	0.16
tblVehicleEF	LHD2	1.4000e-004	1.4100e-004
tblVehicleEF	LHD2	6.1020e-003	6.1810e-003
tblVehicleEF	LHD2	2.8500e-004	2.9200e-004
tblVehicleEF	LHD2	3.1480e-003	3.4040e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.8200e-003	1.9350e-003

tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.16	0.17
tblVehicleEF	LHD2	4.1420e-003	4.2750e-003
tblVehicleEF	LHD2	6.7130e-003	7.7230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.70	0.79
tblVehicleEF	LHD2	1.49	1.62
tblVehicleEF	LHD2	14.38	14.39
tblVehicleEF	LHD2	626.67	634.49
tblVehicleEF	LHD2	25.83	26.33
tblVehicleEF	LHD2	5.6710e-003	5.9060e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	2.10	2.33
tblVehicleEF	LHD2	0.61	0.64
tblVehicleEF	LHD2	1.3180e-003	1.3160e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.9900e-004	5.4700e-004
tblVehicleEF	LHD2	1.2610e-003	1.2590e-003
tblVehicleEF	LHD2	2.6700e-003	2.6640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.5900e-004	5.0300e-004
tblVehicleEF	LHD2	1.7370e-003	1.9010e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02

tblVehicleEF	LHD2	8.0100e-004	8.4300e-004
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.15	0.16
tblVehicleEF	LHD2	1.4000e-004	1.4100e-004
tblVehicleEF	LHD2	6.1020e-003	6.1810e-003
tblVehicleEF	LHD2	2.8600e-004	2.9400e-004
tblVehicleEF	LHD2	1.7370e-003	1.9010e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	8.0100e-004	8.4300e-004
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.16	0.18
tblVehicleEF	MCY	0.41	0.41
tblVehicleEF	MCY	0.16	0.16
tblVehicleEF	MCY	22.23	22.94
tblVehicleEF	MCY	9.88	9.86
tblVehicleEF	MCY	165.54	165.33
tblVehicleEF	MCY	47.79	48.30
tblVehicleEF	MCY	6.2440e-003	6.3790e-003
tblVehicleEF	MCY	1.18	1.19
tblVehicleEF	MCY	0.31	0.31
tblVehicleEF	MCY	1.7240e-003	1.6830e-003
tblVehicleEF	MCY	3.9470e-003	4.0500e-003
tblVehicleEF	MCY	1.6190e-003	1.5830e-003
tblVehicleEF	MCY	3.7350e-003	3.8370e-003

tblVehicleEF	MCY	1.44	1.44
tblVehicleEF	MCY	0.86	0.87
tblVehicleEF	MCY	0.81	0.80
tblVehicleEF	MCY	2.31	2.37
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	2.21	2.22
tblVehicleEF	MCY	2.0840e-003	2.0940e-003
tblVehicleEF	MCY	7.0500e-004	7.1000e-004
tblVehicleEF	MCY	1.44	1.44
tblVehicleEF	MCY	0.86	0.87
tblVehicleEF	MCY	0.81	0.80
tblVehicleEF	MCY	2.80	2.85
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	2.40	2.42
tblVehicleEF	MCY	0.40	0.40
tblVehicleEF	MCY	0.14	0.14
tblVehicleEF	MCY	22.35	23.05
tblVehicleEF	MCY	9.08	9.10
tblVehicleEF	MCY	165.54	165.33
tblVehicleEF	MCY	47.79	48.30
tblVehicleEF	MCY	6.2440e-003	6.3790e-003
tblVehicleEF	MCY	1.00	1.01
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	1.7240e-003	1.6830e-003
tblVehicleEF	MCY	3.9470e-003	4.0500e-003
tblVehicleEF	MCY	1.6190e-003	1.5830e-003
tblVehicleEF	MCY	3.7350e-003	3.8370e-003

tblVehicleEF	MCY	3.14	3.13
tblVehicleEF	MCY	1.28	1.28
tblVehicleEF	MCY	2.15	2.15
tblVehicleEF	MCY	2.24	2.29
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	1.89	1.91
tblVehicleEF	MCY	2.0830e-003	2.0930e-003
tblVehicleEF	MCY	6.8200e-004	6.8700e-004
tblVehicleEF	MCY	3.14	3.13
tblVehicleEF	MCY	1.28	1.28
tblVehicleEF	MCY	2.15	2.15
tblVehicleEF	MCY	2.72	2.76
tblVehicleEF	MCY	0.51	0.52
tblVehicleEF	MCY	2.06	2.07
tblVehicleEF	MCY	0.40	0.40
tblVehicleEF	MCY	0.16	0.16
tblVehicleEF	MCY	21.18	21.83
tblVehicleEF	MCY	9.49	9.47
tblVehicleEF	MCY	165.54	165.33
tblVehicleEF	MCY	47.79	48.30
tblVehicleEF	MCY	6.2440e-003	6.3790e-003
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.31	0.31
tblVehicleEF	MCY	1.7240e-003	1.6830e-003
tblVehicleEF	MCY	3.9470e-003	4.0500e-003
tblVehicleEF	MCY	1.6190e-003	1.5830e-003
tblVehicleEF	MCY	3.7350e-003	3.8370e-003

tblVehicleEF	MCY	1.71	1.70
tblVehicleEF	MCY	1.16	1.16
tblVehicleEF	MCY	0.72	0.72
tblVehicleEF	MCY	2.27	2.32
tblVehicleEF	MCY	0.58	0.59
tblVehicleEF	MCY	2.13	2.14
tblVehicleEF	MCY	2.0660e-003	2.0750e-003
tblVehicleEF	MCY	6.9600e-004	7.0100e-004
tblVehicleEF	MCY	1.71	1.70
tblVehicleEF	MCY	1.16	1.16
tblVehicleEF	MCY	0.72	0.72
tblVehicleEF	MCY	2.75	2.80
tblVehicleEF	MCY	0.58	0.59
tblVehicleEF	MCY	2.31	2.33
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	1.87	2.04
tblVehicleEF	MDV	4.25	4.59
tblVehicleEF	MDV	522.82	536.32
tblVehicleEF	MDV	115.47	117.45
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.24	0.27
tblVehicleEF	MDV	0.43	0.47
tblVehicleEF	MDV	1.9100e-003	1.9380e-003
tblVehicleEF	MDV	2.7180e-003	2.7820e-003
tblVehicleEF	MDV	1.7630e-003	1.7900e-003
tblVehicleEF	MDV	2.5040e-003	2.5650e-003

tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.35	0.38
tblVehicleEF	MDV	5.2470e-003	5.3850e-003
tblVehicleEF	MDV	1.2310e-003	1.2570e-003
tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.38	0.41
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.23	2.44
tblVehicleEF	MDV	3.55	3.83
tblVehicleEF	MDV	569.24	583.96
tblVehicleEF	MDV	115.47	117.45
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.22	0.24
tblVehicleEF	MDV	0.40	0.44
tblVehicleEF	MDV	1.9100e-003	1.9380e-003
tblVehicleEF	MDV	2.7180e-003	2.7820e-003
tblVehicleEF	MDV	1.7630e-003	1.7900e-003
tblVehicleEF	MDV	2.5040e-003	2.5650e-003

tblVehicleEF	MDV	0.21	0.22
tblVehicleEF	MDV	0.25	0.26
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.29	0.32
tblVehicleEF	MDV	5.7160e-003	5.8670e-003
tblVehicleEF	MDV	1.2180e-003	1.2430e-003
tblVehicleEF	MDV	0.21	0.22
tblVehicleEF	MDV	0.25	0.26
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.32	0.35
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	1.77	1.93
tblVehicleEF	MDV	4.18	4.51
tblVehicleEF	MDV	511.98	525.18
tblVehicleEF	MDV	115.47	117.45
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.23	0.25
tblVehicleEF	MDV	0.43	0.46
tblVehicleEF	MDV	1.9100e-003	1.9380e-003
tblVehicleEF	MDV	2.7180e-003	2.7820e-003
tblVehicleEF	MDV	1.7630e-003	1.7900e-003
tblVehicleEF	MDV	2.5040e-003	2.5650e-003

tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.24	0.24
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.34	0.38
tblVehicleEF	MDV	5.1370e-003	5.2720e-003
tblVehicleEF	MDV	1.2300e-003	1.2560e-003
tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.24	0.24
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.38	0.41
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	5.12	5.88
tblVehicleEF	MH	8.11	8.68
tblVehicleEF	MH	1,047.38	1,058.82
tblVehicleEF	MH	64.00	65.78
tblVehicleEF	MH	1.1630e-003	1.2510e-003
tblVehicleEF	MH	1.82	1.92
tblVehicleEF	MH	1.02	1.06
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.8240e-003	2.0800e-003
tblVehicleEF	MH	3.2160e-003	3.2130e-003

tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.6950e-003	1.9370e-003
tblVehicleEF	MH	1.74	1.83
tblVehicleEF	MH	0.10	0.11
tblVehicleEF	MH	0.59	0.61
tblVehicleEF	MH	0.16	0.18
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.50	0.55
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	7.8300e-004	8.1100e-004
tblVehicleEF	MH	1.74	1.83
tblVehicleEF	MH	0.10	0.11
tblVehicleEF	MH	0.59	0.61
tblVehicleEF	MH	0.22	0.25
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.55	0.60
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	5.31	6.08
tblVehicleEF	MH	7.47	8.03
tblVehicleEF	MH	1,047.38	1,058.82
tblVehicleEF	MH	64.00	65.78
tblVehicleEF	MH	1.1630e-003	1.2510e-003
tblVehicleEF	MH	1.66	1.74
tblVehicleEF	MH	0.97	1.00
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04

tblVehicleEF	MH	1.8240e-003	2.0800e-003
tblVehicleEF	MH	3.2160e-003	3.2130e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.6950e-003	1.9370e-003
tblVehicleEF	MH	3.50	3.68
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	1.44	1.51
tblVehicleEF	MH	0.17	0.19
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.47	0.52
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	7.7200e-004	8.0000e-004
tblVehicleEF	MH	3.50	3.68
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	1.44	1.51
tblVehicleEF	MH	0.23	0.25
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.52	0.57
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	5.07	5.80
tblVehicleEF	MH	7.97	8.52
tblVehicleEF	MH	1,047.38	1,058.82
tblVehicleEF	MH	64.00	65.78
tblVehicleEF	MH	1.1630e-003	1.2510e-003
tblVehicleEF	MH	1.78	1.87
tblVehicleEF	MH	1.01	1.04

tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.8240e-003	2.0800e-003
tblVehicleEF	MH	3.2160e-003	3.2130e-003
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	1.6950e-003	1.9370e-003
tblVehicleEF	MH	2.13	2.25
tblVehicleEF	MH	0.14	0.14
tblVehicleEF	MH	0.62	0.64
tblVehicleEF	MH	0.16	0.18
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.50	0.54
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	7.8000e-004	8.0800e-004
tblVehicleEF	MH	2.13	2.25
tblVehicleEF	MH	0.14	0.14
tblVehicleEF	MH	0.62	0.64
tblVehicleEF	MH	0.22	0.25
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.54	0.59
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	9.1590e-003	0.01
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	0.46	0.49
tblVehicleEF	MHD	0.65	0.81
tblVehicleEF	MHD	7.39	8.33
tblVehicleEF	MHD	157.54	155.75

tblVehicleEF	MHD	1,105.65	1,117.34
tblVehicleEF	MHD	56.04	58.54
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.21	1.31
tblVehicleEF	MHD	2.37	2.82
tblVehicleEF	MHD	11.70	11.56
tblVehicleEF	MHD	4.7630e-003	5.6590e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	1.0160e-003	1.2340e-003
tblVehicleEF	MHD	4.5570e-003	5.4140e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	9.3600e-004	1.1420e-003
tblVehicleEF	MHD	1.7760e-003	2.0290e-003
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	8.5500e-004	9.6300e-004
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.45	0.52
tblVehicleEF	MHD	1.5140e-003	1.4970e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.9000e-004	7.3200e-004
tblVehicleEF	MHD	1.7760e-003	2.0290e-003
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	8.5500e-004	9.6300e-004
tblVehicleEF	MHD	0.14	0.17

tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.49	0.56
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	9.2950e-003	0.01
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.34	0.36
tblVehicleEF	MHD	0.66	0.82
tblVehicleEF	MHD	6.91	7.82
tblVehicleEF	MHD	166.87	164.97
tblVehicleEF	MHD	1,105.65	1,117.34
tblVehicleEF	MHD	56.04	58.54
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.25	1.36
tblVehicleEF	MHD	2.23	2.65
tblVehicleEF	MHD	11.65	11.50
tblVehicleEF	MHD	4.0150e-003	4.7700e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	1.0160e-003	1.2340e-003
tblVehicleEF	MHD	3.8410e-003	4.5640e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	9.3600e-004	1.1420e-003
tblVehicleEF	MHD	3.5610e-003	4.0950e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	2.0490e-003	2.3400e-003
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	0.02	0.03

tblVehicleEF	MHD	0.43	0.49
tblVehicleEF	MHD	1.6020e-003	1.5840e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.8200e-004	7.2300e-004
tblVehicleEF	MHD	3.5610e-003	4.0950e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	2.0490e-003	2.3400e-003
tblVehicleEF	MHD	0.14	0.17
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.47	0.54
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	9.1710e-003	0.01
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	0.64	0.68
tblVehicleEF	MHD	0.65	0.81
tblVehicleEF	MHD	7.25	8.17
tblVehicleEF	MHD	144.65	143.00
tblVehicleEF	MHD	1,105.65	1,117.34
tblVehicleEF	MHD	56.04	58.54
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.16	1.26
tblVehicleEF	MHD	2.33	2.77
tblVehicleEF	MHD	11.68	11.54
tblVehicleEF	MHD	5.7950e-003	6.8860e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	1.0160e-003	1.2340e-003

tblVehicleEF	MHD	5.5440e-003	6.5880e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	9.3600e-004	1.1420e-003
tblVehicleEF	MHD	2.0110e-003	2.3270e-003
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	8.5200e-004	9.6300e-004
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.44	0.51
tblVehicleEF	MHD	1.3930e-003	1.3770e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.8800e-004	7.2900e-004
tblVehicleEF	MHD	2.0110e-003	2.3270e-003
tblVehicleEF	MHD	0.06	0.07
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	8.5200e-004	9.6300e-004
tblVehicleEF	MHD	0.14	0.17
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.49	0.56
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	0.27	0.28
tblVehicleEF	OBUS	0.98	1.16
tblVehicleEF	OBUS	7.52	8.02
tblVehicleEF	OBUS	68.93	68.05

tblVehicleEF	OBUS	1,130.72	1,144.40
tblVehicleEF	OBUS	72.04	72.63
tblVehicleEF	OBUS	1.3260e-003	1.3150e-003
tblVehicleEF	OBUS	0.39	0.40
tblVehicleEF	OBUS	1.49	1.62
tblVehicleEF	OBUS	2.08	2.13
tblVehicleEF	OBUS	2.1100e-004	2.3500e-004
tblVehicleEF	OBUS	7.0340e-003	7.3470e-003
tblVehicleEF	OBUS	9.0200e-004	9.0300e-004
tblVehicleEF	OBUS	2.0200e-004	2.2500e-004
tblVehicleEF	OBUS	6.7100e-003	7.0100e-003
tblVehicleEF	OBUS	8.3000e-004	8.3200e-004
tblVehicleEF	OBUS	2.3600e-003	2.4380e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	9.8000e-004	1.0000e-003
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	0.46	0.50
tblVehicleEF	OBUS	6.7000e-004	6.6200e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.5300e-004	8.6700e-004
tblVehicleEF	OBUS	2.3600e-003	2.4380e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	9.8000e-004	1.0000e-003
tblVehicleEF	OBUS	0.08	0.09

tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	0.51	0.54
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.27	0.27
tblVehicleEF	OBUS	1.00	1.19
tblVehicleEF	OBUS	6.90	7.35
tblVehicleEF	OBUS	71.97	71.04
tblVehicleEF	OBUS	1,130.72	1,144.40
tblVehicleEF	OBUS	72.04	72.63
tblVehicleEF	OBUS	1.3260e-003	1.3150e-003
tblVehicleEF	OBUS	0.40	0.41
tblVehicleEF	OBUS	1.38	1.50
tblVehicleEF	OBUS	2.02	2.07
tblVehicleEF	OBUS	1.7800e-004	1.9800e-004
tblVehicleEF	OBUS	7.0340e-003	7.3470e-003
tblVehicleEF	OBUS	9.0200e-004	9.0300e-004
tblVehicleEF	OBUS	1.7000e-004	1.9000e-004
tblVehicleEF	OBUS	6.7100e-003	7.0100e-003
tblVehicleEF	OBUS	8.3000e-004	8.3200e-004
tblVehicleEF	OBUS	4.6170e-003	4.7840e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.2950e-003	2.3650e-003
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	0.05	0.05

tblVehicleEF	OBUS	0.44	0.47
tblVehicleEF	OBUS	6.9900e-004	6.9100e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.4200e-004	8.5600e-004
tblVehicleEF	OBUS	4.6170e-003	4.7840e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	2.2950e-003	2.3650e-003
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	0.48	0.51
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	0.29	0.29
tblVehicleEF	OBUS	0.98	1.16
tblVehicleEF	OBUS	7.46	7.96
tblVehicleEF	OBUS	64.72	63.93
tblVehicleEF	OBUS	1,130.72	1,144.40
tblVehicleEF	OBUS	72.04	72.63
tblVehicleEF	OBUS	1.3260e-003	1.3150e-003
tblVehicleEF	OBUS	0.37	0.38
tblVehicleEF	OBUS	1.46	1.59
tblVehicleEF	OBUS	2.06	2.11
tblVehicleEF	OBUS	2.5700e-004	2.8600e-004
tblVehicleEF	OBUS	7.0340e-003	7.3470e-003
tblVehicleEF	OBUS	9.0200e-004	9.0300e-004

tblVehicleEF	OBUS	2.4600e-004	2.7400e-004
tblVehicleEF	OBUS	6.7100e-003	7.0100e-003
tblVehicleEF	OBUS	8.3000e-004	8.3200e-004
tblVehicleEF	OBUS	2.5780e-003	2.6910e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	9.9800e-004	1.0220e-003
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.46	0.49
tblVehicleEF	OBUS	6.3000e-004	6.2300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.5200e-004	8.6600e-004
tblVehicleEF	OBUS	2.5780e-003	2.6910e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	9.9800e-004	1.0220e-003
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.51	0.54
tblVehicleEF	SBUS	0.88	0.88
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.08	0.09
tblVehicleEF	SBUS	5.44	5.33
tblVehicleEF	SBUS	0.84	0.94
tblVehicleEF	SBUS	5.79	6.01
tblVehicleEF	SBUS	1,293.73	1,303.92

tblVehicleEF	SBUS	1,160.25	1,168.64
tblVehicleEF	SBUS	34.04	33.07
tblVehicleEF	SBUS	8.2300e-004	8.2900e-004
tblVehicleEF	SBUS	13.93	14.65
tblVehicleEF	SBUS	5.98	6.41
tblVehicleEF	SBUS	15.64	15.85
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	5.2400e-004	5.5300e-004
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	2.7780e-003	2.7860e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	4.8100e-004	5.0800e-004
tblVehicleEF	SBUS	3.7220e-003	4.2060e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.65	0.64
tblVehicleEF	SBUS	1.4310e-003	1.5370e-003
tblVehicleEF	SBUS	0.13	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.30	0.31
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.4100e-004	4.3500e-004
tblVehicleEF	SBUS	3.7220e-003	4.2060e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.93	0.91

tblVehicleEF	SBUS	1.4310e-003	1.5370e-003
tblVehicleEF	SBUS	0.16	0.17
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.33	0.34
tblVehicleEF	SBUS	0.88	0.88
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.07	0.07
tblVehicleEF	SBUS	5.26	5.15
tblVehicleEF	SBUS	0.85	0.96
tblVehicleEF	SBUS	3.97	4.12
tblVehicleEF	SBUS	1,360.62	1,371.70
tblVehicleEF	SBUS	1,160.25	1,168.64
tblVehicleEF	SBUS	34.04	33.07
tblVehicleEF	SBUS	8.2300e-004	8.2900e-004
tblVehicleEF	SBUS	14.38	15.11
tblVehicleEF	SBUS	5.60	6.01
tblVehicleEF	SBUS	15.61	15.81
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	5.2400e-004	5.5300e-004
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	2.7780e-003	2.7860e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	4.8100e-004	5.0800e-004
tblVehicleEF	SBUS	7.1900e-003	8.1360e-003
tblVehicleEF	SBUS	0.03	0.03

tblVehicleEF	SBUS	0.65	0.64
tblVehicleEF	SBUS	3.2890e-003	3.5810e-003
tblVehicleEF	SBUS	0.13	0.14
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.24	0.26
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.1000e-004	4.0300e-004
tblVehicleEF	SBUS	7.1900e-003	8.1360e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.93	0.91
tblVehicleEF	SBUS	3.2890e-003	3.5810e-003
tblVehicleEF	SBUS	0.16	0.17
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.27	0.28
tblVehicleEF	SBUS	0.88	0.88
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.08	0.09
tblVehicleEF	SBUS	5.68	5.59
tblVehicleEF	SBUS	0.84	0.94
tblVehicleEF	SBUS	5.85	6.07
tblVehicleEF	SBUS	1,201.37	1,210.32
tblVehicleEF	SBUS	1,160.25	1,168.64
tblVehicleEF	SBUS	34.04	33.07
tblVehicleEF	SBUS	8.2300e-004	8.2900e-004
tblVehicleEF	SBUS	13.31	14.00
tblVehicleEF	SBUS	5.89	6.31

tblVehicleEF	SBUS	15.64	15.85
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	5.2400e-004	5.5300e-004
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	2.7780e-003	2.7860e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	4.8100e-004	5.0800e-004
tblVehicleEF	SBUS	4.1790e-003	4.8840e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	0.66	0.65
tblVehicleEF	SBUS	1.4520e-003	1.5860e-003
tblVehicleEF	SBUS	0.13	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.31	0.32
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.4200e-004	4.3600e-004
tblVehicleEF	SBUS	4.1790e-003	4.8840e-003
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	0.94	0.92
tblVehicleEF	SBUS	1.4520e-003	1.5860e-003
tblVehicleEF	SBUS	0.16	0.17
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.33	0.35
tblVehicleEF	UBUS	2.18	2.30

tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	10.98	11.59
tblVehicleEF	UBUS	16.03	16.73
tblVehicleEF	UBUS	1,898.46	1,917.06
tblVehicleEF	UBUS	131.84	130.48
tblVehicleEF	UBUS	1.7150e-003	1.7780e-003
tblVehicleEF	UBUS	7.84	8.53
tblVehicleEF	UBUS	14.21	14.43
tblVehicleEF	UBUS	0.53	0.54
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.3530e-003	1.3370e-003
tblVehicleEF	UBUS	0.23	0.23
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.2450e-003	1.2310e-003
tblVehicleEF	UBUS	9.0440e-003	9.3450e-003
tblVehicleEF	UBUS	0.13	0.14
tblVehicleEF	UBUS	4.3140e-003	4.4380e-003
tblVehicleEF	UBUS	0.78	0.84
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.26	1.29
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.6090e-003	1.6080e-003
tblVehicleEF	UBUS	9.0440e-003	9.3450e-003
tblVehicleEF	UBUS	0.13	0.14
tblVehicleEF	UBUS	4.3140e-003	4.4380e-003
tblVehicleEF	UBUS	3.05	3.24
tblVehicleEF	UBUS	0.02	0.02

tblVehicleEF	UBUS	1.38	1.42
tblVehicleEF	UBUS	2.18	2.31
tblVehicleEF	UBUS	0.08	0.09
tblVehicleEF	UBUS	11.10	11.72
tblVehicleEF	UBUS	13.14	13.72
tblVehicleEF	UBUS	1,898.46	1,917.06
tblVehicleEF	UBUS	131.84	130.48
tblVehicleEF	UBUS	1.7150e-003	1.7780e-003
tblVehicleEF	UBUS	7.29	7.93
tblVehicleEF	UBUS	14.09	14.30
tblVehicleEF	UBUS	0.53	0.54
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.3530e-003	1.3370e-003
tblVehicleEF	UBUS	0.23	0.23
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.2450e-003	1.2310e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.16	0.17
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	0.80	0.86
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.12	1.15
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.5590e-003	1.5560e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.16	0.17
tblVehicleEF	UBUS	0.01	0.01

tblVehicleEF	UBUS	3.07	3.26
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.23	1.26
tblVehicleEF	UBUS	2.18	2.30
tblVehicleEF	UBUS	0.09	0.09
tblVehicleEF	UBUS	10.99	11.59
tblVehicleEF	UBUS	15.49	16.18
tblVehicleEF	UBUS	1,898.46	1,917.06
tblVehicleEF	UBUS	131.84	130.48
tblVehicleEF	UBUS	1.7150e-003	1.7780e-003
tblVehicleEF	UBUS	7.69	8.37
tblVehicleEF	UBUS	14.19	14.41
tblVehicleEF	UBUS	0.53	0.54
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.3530e-003	1.3370e-003
tblVehicleEF	UBUS	0.23	0.23
tblVehicleEF	UBUS	0.09	0.10
tblVehicleEF	UBUS	1.2450e-003	1.2310e-003
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	0.17	0.17
tblVehicleEF	UBUS	4.5490e-003	4.6930e-003
tblVehicleEF	UBUS	0.79	0.84
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	1.24	1.27
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.6000e-003	1.5980e-003
tblVehicleEF	UBUS	0.01	0.01

tblVehicleEF	UBUS	0.17	0.17
tblVehicleEF	UBUS	4.5490e-003	4.6930e-003
tblVehicleEF	UBUS	3.05	3.24
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	1.36	1.39
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	40,545,062.50	0.00
tblWater	IndoorWaterUseRate	350,267,437.50	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					
2018	1.0509	9.4387	7.2126	0.0211	1.6588	0.3006	1.9594	0.5702	0.2805	0.8507	0.0000	1,943.6629	1,943.6629	0.2233	0.0000	1,949.2465
2019	6.9856	12.7941	13.3288	0.0433	2.4509	0.3262	2.7771	0.6602	0.3105	0.9706	0.0000	3,979.0183	3,979.0183	0.2903	0.0000	3,986.2749
Maximum	**6.9856**	**12.7941**	**13.3288**	**0.0433**	**2.4509**	**0.3262**	**2.7771**	**0.6602**	**0.3105**	**0.9706**	**0.0000**	**3,979.0183**	**3,979.0183**	**0.2903**	**0.0000**	**3,986.2749**

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					
2018	1.0509	9.4387	7.2126	0.0211	1.2105	0.3006	1.5110	0.3744	0.2805	0.6549	0.0000	1,943.6623	1,943.6623	0.2233	0.0000	1,949.2458
2019	6.9856	12.7941	13.3288	0.0433	2.4509	0.3262	2.7771	0.6602	0.3105	0.9706	0.0000	3,979.0177	3,979.0177	0.2903	0.0000	3,986.2743
Maximum	**6.9856**	**12.7941**	**13.3288**	**0.0433**	**2.4509**	**0.3262**	**2.7771**	**0.6602**	**0.3105**	**0.9706**	**0.0000**	**3,979.0177**	**3,979.0177**	**0.2903**	**0.0000**	**3,986.2743**

	ROG	**NOx**	**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**	**10.91**	**0.00**	**9.47**	**15.91**	**0.00**	**10.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	**6-1-2018**	**8-31-2018**	4.6168	4.6168
6	**9-1-2018**	**11-30-2018**	4.3887	4.3887
7	**12-1-2018**	**2-28-2019**	4.1138	4.1138
8	**3-1-2019**	**5-31-2019**	5.9190	5.9190
9	**6-1-2019**	**8-31-2019**	6.7224	6.7224
10	**9-1-2019**	**9-30-2019**	2.1921	2.1921
		Highest	6.7224	6.7224

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	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460
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	**2.1200e-003**	**2.1000e-004**	**0.0224**	**0.0000**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0431**	**0.0431**	**1.2000e-004**	**0.0000**	**0.0460**

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	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460
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	**2.1200e-003**	**2.1000e-004**	**0.0224**	**0.0000**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0431**	**0.0431**	**1.2000e-004**	**0.0000**	**0.0460**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2018	6/28/2018	5	20	
2	Grading	Grading	6/29/2018	8/30/2018	5	45	
3	Building Construction	Building Construction	8/31/2018	10/24/2019	5	300	
4	Paving	Paving	10/25/2019	12/26/2019	5	45	
5	Architectural Coating	Architectural Coating	3/29/2019	10/24/2019	5	150	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 270

Acres of Paving: 45.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,535,000; Non-Residential Outdoor: 845,000; Striped Parking Area: 117,899 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	4	8.00	187	0.41
Grading	Off-Highway Trucks	2	8.00	189	0.50
Grading	Rubber Tired Dozers	4	8.00	247	0.40
Grading	Scrapers	4	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	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	3	8.00	78	0.48
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	6	15.00	0.00	455.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	18	45.00	0.00	1,250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	1,535.00	599.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	307.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	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 - 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					
Fugitive Dust					0.0492	0.0000	0.0492	7.4500e-003	0.0000	7.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0411	0.3977	0.2343	4.1000e-004		0.0212	0.0212		0.0200	0.0200	0.0000	36.4390	36.4390	8.7600e-003	0.0000	36.6580
Total	**0.0411**	**0.3977**	**0.2343**	**4.1000e-004**	**0.0492**	**0.0212**	**0.0704**	**7.4500e-003**	**0.0200**	**0.0274**	**0.0000**	**36.4390**	**36.4390**	**8.7600e-003**	**0.0000**	**36.6580**

3.2 Demolition - 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	1.6500e-003	0.0658	9.7300e-003	1.8000e-004	3.9200e-003	2.3000e-004	4.1400e-003	1.0800e-003	2.2000e-004	1.2900e-003	0.0000	17.3832	17.3832	1.0000e-003	0.0000	17.4082
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	7.5000e-004	7.3100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5063	1.5063	5.0000e-005	0.0000	1.5077
Total	**2.5400e-003**	**0.0666**	**0.0170**	**2.0000e-004**	**5.5600e-003**	**2.4000e-004**	**5.8000e-003**	**1.5200e-003**	**2.3000e-004**	**1.7400e-003**	**0.0000**	**18.8896**	**18.8896**	**1.0500e-003**	**0.0000**	**18.9159**

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					0.0192	0.0000	0.0192	2.9100e-003	0.0000	2.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0411	0.3977	0.2343	4.1000e-004		0.0212	0.0212		0.0200	0.0200	0.0000	36.4390	36.4390	8.7600e-003	0.0000	36.6580
Total	**0.0411**	**0.3977**	**0.2343**	**4.1000e-004**	**0.0192**	**0.0212**	**0.0404**	**2.9100e-003**	**0.0200**	**0.0229**	**0.0000**	**36.4390**	**36.4390**	**8.7600e-003**	**0.0000**	**36.6580**

3.2 Demolition - 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	1.6500e-003	0.0658	9.7300e-003	1.8000e-004	3.9200e-003	2.3000e-004	4.1400e-003	1.0800e-003	2.2000e-004	1.2900e-003	0.0000	17.3832	17.3832	1.0000e-003	0.0000	17.4082
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	7.5000e-004	7.3100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5063	1.5063	5.0000e-005	0.0000	1.5077
Total	**2.5400e-003**	**0.0666**	**0.0170**	**2.0000e-004**	**5.5600e-003**	**2.4000e-004**	**5.8000e-003**	**1.5200e-003**	**2.3000e-004**	**1.7400e-003**	**0.0000**	**18.8896**	**18.8896**	**1.0500e-003**	**0.0000**	**18.9159**

3.3 Grading - 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					
Fugitive Dust					0.6857	0.0000	0.6857	0.3135	0.0000	0.3135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3055	3.5656	1.7253	3.4700e-003		0.1519	0.1519		0.1397	0.1397	0.0000	316.5813	316.5813	0.0986	0.0000	319.0452
Total	**0.3055**	**3.5656**	**1.7253**	**3.4700e-003**	**0.6857**	**0.1519**	**0.8376**	**0.3135**	**0.1397**	**0.4532**	**0.0000**	**316.5813**	**316.5813**	**0.0986**	**0.0000**	**319.0452**

3.3 Grading - 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	4.5400e-003	0.1808	0.0267	5.0000e-004	0.0108	6.2000e-004	0.0114	2.9500e-003	5.9000e-004	3.5500e-003	0.0000	47.7561	47.7561	2.7500e-003	0.0000	47.8248
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9800e-003	5.0400e-003	0.0493	1.1000e-004	0.0111	8.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0200e-003	0.0000	10.1678	10.1678	3.7000e-004	0.0000	10.1770
Total	**0.0105**	**0.1858**	**0.0760**	**6.1000e-004**	**0.0219**	**7.0000e-004**	**0.0226**	**5.9000e-003**	**6.6000e-004**	**6.5700e-003**	**0.0000**	**57.9239**	**57.9239**	**3.1200e-003**	**0.0000**	**58.0018**

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					0.2674	0.0000	0.2674	0.1223	0.0000	0.1223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3055	3.5656	1.7253	3.4700e-003		0.1519	0.1519		0.1397	0.1397	0.0000	316.5810	316.5810	0.0986	0.0000	319.0449
Total	**0.3055**	**3.5656**	**1.7253**	**3.4700e-003**	**0.2674**	**0.1519**	**0.4193**	**0.1223**	**0.1397**	**0.2620**	**0.0000**	**316.5810**	**316.5810**	**0.0986**	**0.0000**	**319.0449**

3.3 Grading - 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	4.5400e-003	0.1808	0.0267	5.0000e-004	0.0108	6.2000e-004	0.0114	2.9500e-003	5.9000e-004	3.5500e-003	0.0000	47.7561	47.7561	2.7500e-003	0.0000	47.8248
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9800e-003	5.0400e-003	0.0493	1.1000e-004	0.0111	8.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0200e-003	0.0000	10.1678	10.1678	3.7000e-004	0.0000	10.1770
Total	**0.0105**	**0.1858**	**0.0760**	**6.1000e-004**	**0.0219**	**7.0000e-004**	**0.0226**	**5.9000e-003**	**6.6000e-004**	**6.5700e-003**	**0.0000**	**57.9239**	**57.9239**	**3.1200e-003**	**0.0000**	**58.0018**

3.4 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	0.1900	1.6463	1.1702	1.9000e-003		0.0991	0.0991		0.0938	0.0938	0.0000	166.6073	166.6073	0.0382	0.0000	167.5611
Total	**0.1900**	**1.6463**	**1.1702**	**1.9000e-003**		**0.0991**	**0.0991**		**0.0938**	**0.0938**	**0.0000**	**166.6073**	**166.6073**	**0.0382**	**0.0000**	**167.5611**

3.4 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	0.1069	3.2445	0.7372	7.0800e-003	0.1643	0.0223	0.1866	0.0474	0.0213	0.0688	0.0000	676.6756	676.6756	0.0493	0.0000	677.9088
Worker	0.3943	0.3323	3.2526	7.4300e-003	0.7321	5.1800e-003	0.7373	0.1945	4.7800e-003	0.1992	0.0000	670.5461	670.5461	0.0244	0.0000	671.1557
Total	**0.5012**	**3.5768**	**3.9898**	**0.0145**	**0.8964**	**0.0275**	**0.9239**	**0.2419**	**0.0261**	**0.2680**	**0.0000**	**1,347.2218**	**1,347.2218**	**0.0737**	**0.0000**	**1,349.0644**

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	0.1900	1.6463	1.1702	1.9000e-003		0.0991	0.0991		0.0938	0.0938	0.0000	166.6071	166.6071	0.0382	0.0000	167.5609
Total	**0.1900**	**1.6463**	**1.1702**	**1.9000e-003**		**0.0991**	**0.0991**		**0.0938**	**0.0938**	**0.0000**	**166.6071**	**166.6071**	**0.0382**	**0.0000**	**167.5609**

3.4 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	0.1069	3.2445	0.7372	7.0800e-003	0.1643	0.0223	0.1866	0.0474	0.0213	0.0688	0.0000	676.6756	676.6756	0.0493	0.0000	677.9088
Worker	0.3943	0.3323	3.2526	7.4300e-003	0.7321	5.1800e-003	0.7373	0.1945	4.7800e-003	0.1992	0.0000	670.5461	670.5461	0.0244	0.0000	671.1557
Total	**0.5012**	**3.5768**	**3.9898**	**0.0145**	**0.8964**	**0.0275**	**0.9239**	**0.2419**	**0.0261**	**0.2680**	**0.0000**	**1,347.2218**	**1,347.2218**	**0.0737**	**0.0000**	**1,349.0644**

3.4 Building Construction - 2019

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	0.4095	3.6333	2.7836	4.6500e-003		0.2088	0.2088		0.1976	0.1976	0.0000	403.8546	403.8546	0.0913	0.0000	406.1378
Total	**0.4095**	**3.6333**	**2.7836**	**4.6500e-003**		**0.2088**	**0.2088**		**0.1976**	**0.1976**	**0.0000**	**403.8546**	**403.8546**	**0.0913**	**0.0000**	**406.1378**

3.4 Building Construction - 2019

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	0.2333	7.4502	1.6142	0.0172	0.4022	0.0462	0.4484	0.1161	0.0442	0.1603	0.0000	1,640.0273	1,640.0273	0.1180	0.0000	1,642.9781
Worker	0.8768	0.7149	7.0422	0.0176	1.7925	0.0123	1.8048	0.4761	0.0113	0.4874	0.0000	1,585.8382	1,585.8382	0.0524	0.0000	1,587.1476
Total	**1.1101**	**8.1650**	**8.6565**	**0.0347**	**2.1947**	**0.0585**	**2.2532**	**0.5921**	**0.0555**	**0.6477**	**0.0000**	**3,225.8655**	**3,225.8655**	**0.1704**	**0.0000**	**3,230.1256**

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	0.4095	3.6333	2.7836	4.6500e-003		0.2088	0.2088		0.1976	0.1976	0.0000	403.8541	403.8541	0.0913	0.0000	406.1373
Total	**0.4095**	**3.6333**	**2.7836**	**4.6500e-003**		**0.2088**	**0.2088**		**0.1976**	**0.1976**	**0.0000**	**403.8541**	**403.8541**	**0.0913**	**0.0000**	**406.1373**

3.4 Building Construction - 2019

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	0.2333	7.4502	1.6142	0.0172	0.4022	0.0462	0.4484	0.1161	0.0442	0.1603	0.0000	1,640.0273	1,640.0273	0.1180	0.0000	1,642.9781
Worker	0.8768	0.7149	7.0422	0.0176	1.7925	0.0123	1.8048	0.4761	0.0113	0.4874	0.0000	1,585.8382	1,585.8382	0.0524	0.0000	1,587.1476
Total	**1.1101**	**8.1650**	**8.6565**	**0.0347**	**2.1947**	**0.0585**	**2.2532**	**0.5921**	**0.0555**	**0.6477**	**0.0000**	**3,225.8655**	**3,225.8655**	**0.1704**	**0.0000**	**3,230.1256**

3.5 Paving - 2019

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	0.0327	0.3430	0.3300	5.1000e-004		0.0186	0.0186		0.0171	0.0171	0.0000	46.0692	46.0692	0.0146	0.0000	46.4336
Paving	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0918**	**0.3430**	**0.3300**	**5.1000e-004**		**0.0186**	**0.0186**		**0.0171**	**0.0171**	**0.0000**	**46.0692**	**46.0692**	**0.0146**	**0.0000**	**46.4336**

3.5 Paving - 2019

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	1.8100e-003	1.4800e-003	0.0145	4.0000e-005	3.7000e-003	3.0000e-005	3.7300e-003	9.8000e-004	2.0000e-005	1.0100e-003	0.0000	3.2740	3.2740	1.1000e-004	0.0000	3.2767
Total	**1.8100e-003**	**1.4800e-003**	**0.0145**	**4.0000e-005**	**3.7000e-003**	**3.0000e-005**	**3.7300e-003**	**9.8000e-004**	**2.0000e-005**	**1.0100e-003**	**0.0000**	**3.2740**	**3.2740**	**1.1000e-004**	**0.0000**	**3.2767**

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	0.0327	0.3430	0.3300	5.1000e-004		0.0186	0.0186		0.0171	0.0171	0.0000	46.0691	46.0691	0.0146	0.0000	46.4335
Paving	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0918**	**0.3430**	**0.3300**	**5.1000e-004**		**0.0186**	**0.0186**		**0.0171**	**0.0171**	**0.0000**	**46.0691**	**46.0691**	**0.0146**	**0.0000**	**46.4335**

3.5 Paving - 2019

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	1.8100e-003	1.4800e-003	0.0145	4.0000e-005	3.7000e-003	3.0000e-005	3.7300e-003	9.8000e-004	2.0000e-005	1.0100e-003	0.0000	3.2740	3.2740	1.1000e-004	0.0000	3.2767
Total	**1.8100e-003**	**1.4800e-003**	**0.0145**	**4.0000e-005**	**3.7000e-003**	**3.0000e-005**	**3.7300e-003**	**9.8000e-004**	**2.0000e-005**	**1.0100e-003**	**0.0000**	**3.2740**	**3.2740**	**1.1000e-004**	**0.0000**	**3.2767**

3.6 Architectural Coating - 2019

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	5.1690					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0799	0.5506	0.5524	8.9000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	76.5976	76.5976	6.4700e-003	0.0000	76.7594
Total	**5.2489**	**0.5506**	**0.5524**	**8.9000e-004**		**0.0386**	**0.0386**		**0.0386**	**0.0386**	**0.0000**	**76.5976**	**76.5976**	**6.4700e-003**	**0.0000**	**76.7594**

3.6 Architectural Coating - 2019

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	0.1235	0.1007	0.9919	2.4700e-003	0.2525	1.7300e-003	0.2542	0.0671	1.5900e-003	0.0686	0.0000	223.3575	223.3575	7.3800e-003	0.0000	223.5419
Total	**0.1235**	**0.1007**	**0.9919**	**2.4700e-003**	**0.2525**	**1.7300e-003**	**0.2542**	**0.0671**	**1.5900e-003**	**0.0686**	**0.0000**	**223.3575**	**223.3575**	**7.3800e-003**	**0.0000**	**223.5419**

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	5.1690					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0799	0.5506	0.5524	8.9000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	76.5975	76.5975	6.4700e-003	0.0000	76.7593
Total	**5.2489**	**0.5506**	**0.5524**	**8.9000e-004**		**0.0386**	**0.0386**		**0.0386**	**0.0386**	**0.0000**	**76.5975**	**76.5975**	**6.4700e-003**	**0.0000**	**76.7593**

3.6 Architectural Coating - 2019

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	0.1235	0.1007	0.9919	2.4700e-003	0.2525	1.7300e-003	0.2542	0.0671	1.5900e-003	0.0686	0.0000	223.3575	223.3575	7.3800e-003	0.0000	223.5419
Total	**0.1235**	**0.1007**	**0.9919**	**2.4700e-003**	**0.2525**	**1.7300e-003**	**0.2542**	**0.0671**	**1.5900e-003**	**0.0686**	**0.0000**	**223.3575**	**223.3575**	**7.3800e-003**	**0.0000**	**223.5419**

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
Manufacturing	0.00	0.00	0.00		
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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	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
Manufacturing	0.541740	0.038987	0.178620	0.126833	0.019742	0.005671	0.017070	0.060066	0.001326	0.001715	0.006244	0.000823	0.001163
Unrefrigerated Warehouse-No Rail	0.541740	0.038987	0.178620	0.126833	0.019742	0.005671	0.017070	0.060066	0.001326	0.001715	0.006244	0.000823	0.001163
Parking Lot	0.541740	0.038987	0.178620	0.126833	0.019742	0.005671	0.017070	0.060066	0.001326	0.001715	0.006244	0.000823	0.001163

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					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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			
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
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			
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
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	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460
Unmitigated	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460
Total	**2.1200e-003**	**2.1000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0431**	**0.0431**	**1.2000e-004**	**0.0000**	**0.0460**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0431	0.0431	1.2000e-004	0.0000	0.0460
Total	**2.1200e-003**	**2.1000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0431**	**0.0431**	**1.2000e-004**	**0.0000**	**0.0460**

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			
Manufacturing	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Manufacturing	0 / 0	0.0000	0.0000	0.0000	0.0000
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			
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
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**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	0	0.0000	0.0000	0.0000	0.0000
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

Colony Commerce High Cube (PC)

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	998.68	1000sqft	49.65	998,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Colony Commerce High Cube (PC) - San Bernardino-South Coast County, Annual

Project Characteristics -

Land Use - Lot acreage based on Site Plan.

Construction Phase - Operations only.

Off-road Equipment -

Off-road Equipment - Operations only.

Trips and VMT - Operations only.

Architectural Coating - Operations only.

Vehicle Trips - Passenger cars only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Fleet Mix - Passenger car run only.

Area Coating -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	499,340.00	1,081,375.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,498,020.00	3,244,125.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblConstructionPhase	NumDays	55.00	1.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.6710e-003	0.00
tblFleetMix	MCY	6.2440e-003	0.00
tblFleetMix	MDV	0.13	0.00

tblFleetMix	MH	1.1630e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3260e-003	0.00
tblFleetMix	SBUS	8.2300e-004	0.00
tblFleetMix	UBUS	1.7150e-003	0.00
tblLandUse	LotAcreage	22.93	49.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	84.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
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	0.96
tblVehicleTrips	SU_TR	1.68	0.96
tblVehicleTrips	WD_TR	1.68	0.96
tblWater	IndoorWaterUseRate	230,944,750.00	48,867,010.00

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	0.0000	0.0000	0.0000	0.0000	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	4.0728	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	876.1154	876.1154	0.0338	8.5500e-003	879.5081
Mobile	0.2454	0.4831	5.2376	0.0184	2.1653	0.0121	2.1774	0.5748	0.0111	0.5860	0.0000	1,660.1076	1,660.1076	0.0367	0.0000	1,661.0256
Waste						0.0000	0.0000		0.0000	0.0000	190.5598	0.0000	190.5598	11.2618	0.0000	472.1038
Water						0.0000	0.0000		0.0000	0.0000	15.5033	202.7380	218.2412	1.6007	0.0393	269.9792
Total	**4.3293**	**0.5836**	**5.3348**	**0.0190**	**2.1653**	**0.0198**	**2.1851**	**0.5748**	**0.0188**	**0.5937**	**206.0631**	**2,738.9857**	**2,945.0488**	**12.9330**	**0.0479**	**3,282.6432**

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	4.0728	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	876.1154	876.1154	0.0338	8.5500e-003	879.5081
Mobile	0.2454	0.4831	5.2376	0.0184	2.1653	0.0121	2.1774	0.5748	0.0111	0.5860	0.0000	1,660.1076	1,660.1076	0.0367	0.0000	1,661.0256
Waste						0.0000	0.0000		0.0000	0.0000	190.5598	0.0000	190.5598	11.2618	0.0000	472.1038
Water						0.0000	0.0000		0.0000	0.0000	15.5033	202.7380	218.2412	1.6007	0.0393	269.9792
Total	**4.3293**	**0.5836**	**5.3348**	**0.0190**	**2.1653**	**0.0198**	**2.1851**	**0.5748**	**0.0188**	**0.5937**	**206.0631**	**2,738.9857**	**2,945.0488**	**12.9330**	**0.0479**	**3,282.6432**

	ROG	NOx	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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,244,125; Non-Residential Outdoor: 1,081,375; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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

<u>Trips and VMT</u>

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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	0.2454	0.4831	5.2376	0.0184	2.1653	0.0121	2.1774	0.5748	0.0111	0.5860	0.0000	1,660.1076	1,660.1076	0.0367	0.0000	1,661.0256
Unmitigated	0.2454	0.4831	5.2376	0.0184	2.1653	0.0121	2.1774	0.5748	0.0111	0.5860	0.0000	1,660.1076	1,660.1076	0.0367	0.0000	1,661.0256

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	961.73	961.73	961.73	5,811,150	5,811,150
Total	961.73	961.73	961.73	5,811,150	5,811,150

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	0.00	0.00	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	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	766.8640	766.8640	0.0317	6.5500e-003	769.6075
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	766.8640	766.8640	0.0317	6.5500e-003	769.6075
NaturalGas Mitigated	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
NaturalGas Unmitigated	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	2.04729e+006	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
Total		**0.0110**	**0.1004**	**0.0843**	**6.0000e-004**		**7.6300e-003**	**7.6300e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**109.2514**	**109.2514**	**2.0900e-003**	**2.0000e-003**	**109.9006**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	2.04729e+006	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
Total		**0.0110**	**0.1004**	**0.0843**	**6.0000e-004**		**7.6300e-003**	**7.6300e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**109.2514**	**109.2514**	**2.0900e-003**	**2.0000e-003**	**109.9006**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	2.40682e +006	766.8640	0.0317	6.5500e-003	769.6075
Total		**766.8640**	**0.0317**	**6.5500e-003**	**769.6075**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	2.40682e +006	766.8640	0.0317	6.5500e-003	769.6075
Total		**766.8640**	**0.0317**	**6.5500e-003**	**769.6075**

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	4.0728	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	4.0728	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

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	0.4629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2200e-003	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**4.0728**	**1.2000e-004**	**0.0129**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

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	0.4629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2200e-003	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**4.0728**	**1.2000e-004**	**0.0129**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	218.2412	1.6007	0.0393	269.9792
Unmitigated	218.2412	1.6007	0.0393	269.9792

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	48.867 / 0	218.2412	1.6007	0.0393	269.9792
Total		**218.2412**	**1.6007**	**0.0393**	**269.9792**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	48.867 / 0	218.2412	1.6007	0.0393	269.9792
Total		**218.2412**	**1.6007**	**0.0393**	**269.9792**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	190.5598	11.2618	0.0000	472.1038
Unmitigated	190.5598	11.2618	0.0000	472.1038

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	938.76	190.5598	11.2618	0.0000	472.1038
Total		**190.5598**	**11.2618**	**0.0000**	**472.1038**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	938.76	190.5598	11.2618	0.0000	472.1038
Total		**190.5598**	**11.2618**	**0.0000**	**472.1038**

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

Colony Commerce High Cube (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	998.68	1000sqft	49.65	998,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Colony Commerce High Cube (Trucks) - San Bernardino-South Coast County, Annual

Project Characteristics -

Land Use - Lot acreage based on Site Plan.

Construction Phase - Operations only.

Off-road Equipment -

Off-road Equipment - Operations only.

Trips and VMT - Operations only.

Architectural Coating - Operations only.

Vehicle Trips - Passenger cars only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Solid Waste -

Fleet Mix - Passenger car run only.

Operational Off-Road Equipment - Based on SCAQMD High Cube Warehouse Truck Trip Study White Paper (2014) and the Port of Long Beach Air Emissions Inventory (2013)

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	499,340.00	1,081,375.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,498,020.00	3,244,125.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	499340	1081375
tblAreaCoating	Area_Nonresidential_Interior	1498020	3244125
tblConstructionPhase	NumDays	55.00	1.00
tblFleetMix	HHD	0.06	0.63
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.16
tblFleetMix	LHD2	5.6710e-003	0.00

tblFleetMix	MCY	6.2440e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.1630e-003	0.00
tblFleetMix	MHD	0.02	0.21
tblFleetMix	OBUS	1.3260e-003	0.00
tblFleetMix	SBUS	8.2300e-004	0.00
tblFleetMix	UBUS	1.7150e-003	0.00
tblLandUse	LotAcreage	22.93	49.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	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	6.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	84.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
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	0.44
tblVehicleTrips	SU_TR	1.68	0.44

tblVehicleTrips	WD_TR	1.68	0.44
tblWater	IndoorWaterUseRate	230,944,750.00	48,867,010.00

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	0.0000	0.0000	0.0000	0.0000	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	4.6124	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	876.1154	876.1154	0.0338	8.5500e-003	879.5081
Mobile	1.0688	33.8806	7.5698	0.1155	3.5074	0.2606	3.7679	0.9880	0.2492	1.2372	0.0000	11,053.5446	11,053.5446	0.3673	0.0000	11,062.7273
Offroad	0.1743	2.2395	0.8684	3.4600e-003		0.0726	0.0726		0.0668	0.0668	0.0000	310.8109	310.8109	0.0983	0.0000	313.2694
Waste						0.0000	0.0000		0.0000	0.0000	190.5598	0.0000	190.5598	11.2618	0.0000	472.1038
Water						0.0000	0.0000		0.0000	0.0000	15.5033	202.7380	218.2412	1.6007	0.0393	269.9792
Total	**5.8665**	**36.2205**	**8.5354**	**0.1196**	**3.5074**	**0.3408**	**3.8482**	**0.9880**	**0.3237**	**1.3117**	**206.0631**	**12,443.2337**	**12,649.2967**	**13.3619**	**0.0479**	**12,997.6143**

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	4.6124	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Energy	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	876.1154	876.1154	0.0338	8.5500e-003	879.5081
Mobile	1.0688	33.8806	7.5698	0.1155	3.5074	0.2606	3.7679	0.9880	0.2492	1.2372	0.0000	11,053.5446	11,053.5446	0.3673	0.0000	11,062.7273
Offroad	0.1743	2.2395	0.8684	3.4600e-003		0.0726	0.0726		0.0668	0.0668	0.0000	310.8109	310.8109	0.0983	0.0000	313.2694
Waste						0.0000	0.0000		0.0000	0.0000	190.5598	0.0000	190.5598	11.2618	0.0000	472.1038
Water						0.0000	0.0000		0.0000	0.0000	15.5033	202.7380	218.2412	1.6007	0.0393	269.9792
Total	**5.8665**	**36.2205**	**8.5354**	**0.1196**	**3.5074**	**0.3408**	**3.8482**	**0.9880**	**0.3237**	**1.3117**	**206.0631**	**12,443.2337**	**12,649.2967**	**13.3619**	**0.0479**	**12,997.6143**

	ROG	**NOx**	**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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,244,125; Non-Residential Outdoor: 1,081,375; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	1.0688	33.8806	7.5698	0.1155	3.5074	0.2606	3.7679	0.9880	0.2492	1.2372	0.0000	11,053.5446	11,053.5446	0.3673	0.0000	11,062.7273
Unmitigated	1.0688	33.8806	7.5698	0.1155	3.5074	0.2606	3.7679	0.9880	0.2492	1.2372	0.0000	11,053.5446	11,053.5446	0.3673	0.0000	11,062.7273

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	439.42	439.42	439.42	7,997,429	7,997,429
Total	439.42	439.42	439.42	7,997,429	7,997,429

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	50.00	0.00	0.00	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	0.000000	0.000000	0.000000	0.160000	0.000000	0.210000	0.630000	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	766.8640	766.8640	0.0317	6.5500e-003	769.6075
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	766.8640	766.8640	0.0317	6.5500e-003	769.6075
NaturalGas Mitigated	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
NaturalGas Unmitigated	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	2.04729e+006	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
Total		**0.0110**	**0.1004**	**0.0843**	**6.0000e-004**		**7.6300e-003**	**7.6300e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**109.2514**	**109.2514**	**2.0900e-003**	**2.0000e-003**	**109.9006**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	2.04729e+006	0.0110	0.1004	0.0843	6.0000e-004		7.6300e-003	7.6300e-003		7.6300e-003	7.6300e-003	0.0000	109.2514	109.2514	2.0900e-003	2.0000e-003	109.9006
Total		**0.0110**	**0.1004**	**0.0843**	**6.0000e-004**		**7.6300e-003**	**7.6300e-003**		**7.6300e-003**	**7.6300e-003**	**0.0000**	**109.2514**	**109.2514**	**2.0900e-003**	**2.0000e-003**	**109.9006**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	2.40682e+006	766.8640	0.0317	6.5500e-003	769.6075
Total		**766.8640**	**0.0317**	**6.5500e-003**	**769.6075**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	2.40682e+006	766.8640	0.0317	6.5500e-003	769.6075
Total		**766.8640**	**0.0317**	**6.5500e-003**	**769.6075**

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	4.6124	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Unmitigated	4.6124	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2200e-003	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**4.6124**	**1.2000e-004**	**0.0129**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2200e-003	1.2000e-004	0.0129	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0248	0.0248	7.0000e-005	0.0000	0.0265
Total	**4.6124**	**1.2000e-004**	**0.0129**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0248**	**0.0248**	**7.0000e-005**	**0.0000**	**0.0265**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	218.2412	1.6007	0.0393	269.9792
Unmitigated	218.2412	1.6007	0.0393	269.9792

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	48.867 / 0	218.2412	1.6007	0.0393	269.9792
Total		**218.2412**	**1.6007**	**0.0393**	**269.9792**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	48.867 / 0	218.2412	1.6007	0.0393	269.9792
Total		**218.2412**	**1.6007**	**0.0393**	**269.9792**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	190.5598	11.2618	0.0000	472.1038
Unmitigated	190.5598	11.2618	0.0000	472.1038

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	938.76	190.5598	11.2618	0.0000	472.1038
Total		**190.5598**	**11.2618**	**0.0000**	**472.1038**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	938.76	190.5598	11.2618	0.0000	472.1038
Total		**190.5598**	**11.2618**	**0.0000**	**472.1038**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	6	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	0.1743	2.2395	0.8684	3.4600e-003		0.0726	0.0726		0.0668	0.0668	0.0000	310.8109	310.8109	0.0983	0.0000	313.2694
Total	**0.1743**	**2.2395**	**0.8684**	**3.4600e-003**		**0.0726**	**0.0726**		**0.0668**	**0.0668**	**0.0000**	**310.8109**	**310.8109**	**0.0983**	**0.0000**	**313.2694**

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

Colony Commerce Manufacturing (Trucks)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	175.33	1000sqft	8.57	175,330.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on SIte Plan.

Construction Phase - Operations run only.

Off-road Equipment -

Off-road Equipment - Operations run only.

Trips and VMT - Operations run only.

Architectural Coating - Operations run only.

Vehicle Trips - Truck run only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Fleet Mix - Truck run only.

Colony Commerce Manufacturing (Trucks) - Riverside-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	87,665.00	186,545.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	262,995.00	559,635.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	87665	186545
tblAreaCoating	Area_Nonresidential_Interior	262995	559635
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.07	0.44
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.37
tblFleetMix	LHD2	5.5610e-003	0.00
tblFleetMix	MCY	4.6770e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.2110e-003	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	OBUS	1.3450e-003	0.00
tblFleetMix	SBUS	9.7400e-004	0.00
tblFleetMix	UBUS	1.2470e-003	0.00
tblLandUse	LotAcreage	4.03	8.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblSolidWaste	SolidWasteGenerationRate	217.41	462.63
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
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	1.49	0.84
tblVehicleTrips	SU_TR	0.62	0.84
tblVehicleTrips	WD_TR	3.82	0.84
tblWater	IndoorWaterUseRate	40,545,062.50	8,429,928.00

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	0.0000	0.0000	0.0000	0.0000	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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Energy	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	882.2730	882.2730	0.0297	0.0105	886.1499
Mobile	0.3061	9.9589	2.4596	0.0320	1.1647	0.0896	1.2543	0.3287	0.0857	0.4144	0.0000	3,047.1030	3,047.1030	0.0972	0.0000	3,049.5324
Waste						0.0000	0.0000		0.0000	0.0000	93.9097	0.0000	93.9097	5.5499	0.0000	232.6573
Water						0.0000	0.0000		0.0000	0.0000	2.6744	34.9738	37.6483	0.2761	6.7800e-003	46.5734
Total	**1.1435**	**10.2387**	**2.6969**	**0.0337**	**1.1647**	**0.1109**	**1.2756**	**0.3287**	**0.1070**	**0.4357**	**96.5841**	**3,964.3542**	**4,060.9383**	**5.9529**	**0.0173**	**4,214.9176**

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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Energy	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	882.2730	882.2730	0.0297	0.0105	886.1499
Mobile	0.3061	9.9589	2.4596	0.0320	1.1647	0.0896	1.2543	0.3287	0.0857	0.4144	0.0000	3,047.1030	3,047.1030	0.0972	0.0000	3,049.5324
Waste						0.0000	0.0000		0.0000	0.0000	93.9097	0.0000	93.9097	5.5499	0.0000	232.6573
Water						0.0000	0.0000		0.0000	0.0000	2.6744	34.9738	37.6483	0.2761	6.7800e-003	46.5734
Total	**1.1435**	**10.2387**	**2.6969**	**0.0337**	**1.1647**	**0.1109**	**1.2756**	**0.3287**	**0.1070**	**0.4357**	**96.5841**	**3,964.3542**	**4,060.9383**	**5.9529**	**0.0173**	**4,214.9176**

	ROG	NOx	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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 559,635; Non-Residential Outdoor: 186,545; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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	0.3061	9.9589	2.4596	0.0320	1.1647	0.0896	1.2543	0.3287	0.0857	0.4144	0.0000	3,047.1030	3,047.1030	0.0972	0.0000	3,049.5324
Unmitigated	0.3061	9.9589	2.4596	0.0320	1.1647	0.0896	1.2543	0.3287	0.0857	0.4144	0.0000	3,047.1030	3,047.1030	0.0972	0.0000	3,049.5324

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	147.28	147.28	147.28	2,680,445	2,680,445
Total	147.28	147.28	147.28	2,680,445	2,680,445

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
Manufacturing	50.00	0.00	0.00	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
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.370000	0.000000	0.180000	0.440000	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	577.6327	577.6327	0.0239	4.9300e-003	579.6992
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	577.6327	577.6327	0.0239	4.9300e-003	579.6992
NaturalGas Mitigated	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
NaturalGas Unmitigated	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507

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					
Manufacturing	5.70874e+006	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
Total		**0.0308**	**0.2798**	**0.2351**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**	**0.0000**	**304.6404**	**304.6404**	**5.8400e-003**	**5.5900e-003**	**306.4507**

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					
Manufacturing	5.70874e+006	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
Total		**0.0308**	**0.2798**	**0.2351**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**	**0.0000**	**304.6404**	**304.6404**	**5.8400e-003**	**5.5900e-003**	**306.4507**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.81291e +006	577.6327	0.0239	4.9300e-003	579.6992
Total		**577.6327**	**0.0239**	**4.9300e-003**	**579.6992**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.81291e +006	577.6327	0.0239	4.9300e-003	579.6992
Total		**577.6327**	**0.0239**	**4.9300e-003**	**579.6992**

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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Unmitigated	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Total	**0.8067**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.3500e-003**	**4.3500e-003**	**1.0000e-005**	**0.0000**	**4.6500e-003**

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	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Total	**0.8067**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.3500e-003**	**4.3500e-003**	**1.0000e-005**	**0.0000**	**4.6500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.6483	0.2761	6.7800e-003	46.5734
Unmitigated	37.6483	0.2761	6.7800e-003	46.5734

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	8.42993 / 0	37.6483	0.2761	6.7800e-003	46.5734
Total		**37.6483**	**0.2761**	**6.7800e-003**	**46.5734**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	8.42993 / 0	37.6483	0.2761	6.7800e-003	46.5734
Total		**37.6483**	**0.2761**	**6.7800e-003**	**46.5734**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	93.9097	5.5499	0.0000	232.6573
Unmitigated	93.9097	5.5499	0.0000	232.6573

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	462.63	93.9097	5.5499	0.0000	232.6573
Total		**93.9097**	**5.5499**	**0.0000**	**232.6573**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	462.63	93.9097	5.5499	0.0000	232.6573
Total		**93.9097**	**5.5499**	**0.0000**	**232.6573**

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

Colony Commerce Manufacturing (PC)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	175.33	1000sqft	8.57	175,330.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 32

Climate Zone 10 **Operational Year** 2019

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage absed on Site Plan.

Construction Phase - Operations run only.

Off-road Equipment -

Off-road Equipment - Operations run only.

Trips and VMT - Operations run only.

Architectural Coating - Operations run only.

Vehicle Trips - Passenger car run only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Fleet Mix - Passenger car run only.

Area Coating -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	87,665.00	186,545.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	262,995.00	559,635.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	87665	186545
tblAreaCoating	Area_Nonresidential_Interior	262995	559635
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.6710e-003	0.00
tblFleetMix	MCY	6.2440e-003	0.00

tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.1630e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3260e-003	0.00
tblFleetMix	SBUS	8.2300e-004	0.00
tblFleetMix	UBUS	1.7150e-003	0.00
tblLandUse	LotAcreage	4.03	8.57
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblSolidWaste	SolidWasteGenerationRate	217.41	462.63
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	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	1.49	3.09
tblVehicleTrips	SU_TR	0.62	3.09
tblVehicleTrips	WD_TR	3.82	3.09
tblWater	IndoorWaterUseRate	40,545,062.50	8,429,928.00

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	0.0000	0.0000	0.0000	0.0000	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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Energy	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	882.2730	882.2730	0.0297	0.0105	886.1499
Mobile	0.1382	0.2721	2.9505	0.0103	1.2198	6.8100e-003	1.2266	0.3238	6.2800e-003	0.3301	0.0000	935.1867	935.1867	0.0207	0.0000	935.7038
Waste						0.0000	0.0000		0.0000	0.0000	93.9097	0.0000	93.9097	5.5499	0.0000	232.6573
Water						0.0000	0.0000		0.0000	0.0000	2.6744	34.9738	37.6483	0.2761	6.7800e-003	46.5734
Total	**0.9757**	**0.5520**	**3.1878**	**0.0120**	**1.2198**	**0.0281**	**1.2479**	**0.3238**	**0.0276**	**0.3514**	**96.5841**	**1,852.4379**	**1,949.0220**	**5.8764**	**0.0173**	**2,101.0891**

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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Energy	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	882.2730	882.2730	0.0297	0.0105	886.1499
Mobile	0.1382	0.2721	2.9505	0.0103	1.2198	6.8100e-003	1.2266	0.3238	6.2800e-003	0.3301	0.0000	935.1867	935.1867	0.0207	0.0000	935.7038
Waste						0.0000	0.0000		0.0000	0.0000	93.9097	0.0000	93.9097	5.5499	0.0000	232.6573
Water						0.0000	0.0000		0.0000	0.0000	2.6744	34.9738	37.6483	0.2761	6.7800e-003	46.5734
Total	**0.9757**	**0.5520**	**3.1878**	**0.0120**	**1.2198**	**0.0281**	**1.2479**	**0.3238**	**0.0276**	**0.3514**	**96.5841**	**1,852.4379**	**1,949.0220**	**5.8764**	**0.0173**	**2,101.0891**

	ROG	NOx	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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 559,635; Non-Residential Outdoor: 186,545; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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	0.1382	0.2721	2.9505	0.0103	1.2198	6.8100e-003	1.2266	0.3238	6.2800e-003	0.3301	0.0000	935.1867	935.1867	0.0207	0.0000	935.7038
Unmitigated	0.1382	0.2721	2.9505	0.0103	1.2198	6.8100e-003	1.2266	0.3238	6.2800e-003	0.3301	0.0000	935.1867	935.1867	0.0207	0.0000	935.7038

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	541.77	541.77	541.77	3,273,589	3,273,589
Total	541.77	541.77	541.77	3,273,589	3,273,589

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
Manufacturing	16.60	0.00	0.00	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
Manufacturing	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	577.6327	577.6327	0.0239	4.9300e-003	579.6992
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	577.6327	577.6327	0.0239	4.9300e-003	579.6992
NaturalGas Mitigated	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
NaturalGas Unmitigated	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507

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					
Manufacturing	5.70874e+006	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
Total		**0.0308**	**0.2798**	**0.2351**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**	**0.0000**	**304.6404**	**304.6404**	**5.8400e-003**	**5.5900e-003**	**306.4507**

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					
Manufacturing	5.70874e+006	0.0308	0.2798	0.2351	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.6404	304.6404	5.8400e-003	5.5900e-003	306.4507
Total		**0.0308**	**0.2798**	**0.2351**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**	**0.0000**	**304.6404**	**304.6404**	**5.8400e-003**	**5.5900e-003**	**306.4507**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.81291e +006	577.6327	0.0239	4.9300e-003	579.6992
Total		**577.6327**	**0.0239**	**4.9300e-003**	**579.6992**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.81291e +006	577.6327	0.0239	4.9300e-003	579.6992
Total		**577.6327**	**0.0239**	**4.9300e-003**	**579.6992**

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	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Unmitigated	0.8067	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Total	**0.8067**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.3500e-003**	**4.3500e-003**	**1.0000e-005**	**0.0000**	**4.6500e-003**

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	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3500e-003	4.3500e-003	1.0000e-005	0.0000	4.6500e-003
Total	**0.8067**	**2.0000e-005**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.3500e-003**	**4.3500e-003**	**1.0000e-005**	**0.0000**	**4.6500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.6483	0.2761	6.7800e-003	46.5734
Unmitigated	37.6483	0.2761	6.7800e-003	46.5734

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	8.42993 / 0	37.6483	0.2761	6.7800e-003	46.5734
Total		**37.6483**	**0.2761**	**6.7800e-003**	**46.5734**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	8.42993 / 0	37.6483	0.2761	6.7800e-003	46.5734
Total		**37.6483**	**0.2761**	**6.7800e-003**	**46.5734**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	93.9097	5.5499	0.0000	232.6573
Unmitigated	93.9097	5.5499	0.0000	232.6573

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	462.63	93.9097	5.5499	0.0000	232.6573
Total		**93.9097**	**5.5499**	**0.0000**	**232.6573**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	462.63	93.9097	5.5499	0.0000	232.6573
Total		**93.9097**	**5.5499**	**0.0000**	**232.6573**

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

Colony Commerce Warehouse (PC)

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	525.99	1000sqft	25.70	525,991.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage is based on Site Plan.

Construction Phase - Operations run only.

Off-road Equipment - Operations run only.

Trips and VMT - Operations run only.

Architectural Coating - Operations run only.

Vehicle Trips - Passenger cars only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Fleet Mix - Passenger car run only.

Area Coating -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	262,996.00	559,635.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	788,987.00	1,678,905.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	262996	559635
tblAreaCoating	Area_Nonresidential_Interior	788987	1678905
tblConstructionPhase	NumDays	35.00	1.00
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.6710e-003	0.00
tblFleetMix	MCY	6.2440e-003	0.00

tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.1630e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3260e-003	0.00
tblFleetMix	SBUS	8.2300e-004	0.00
tblFleetMix	UBUS	1.7150e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	525,990.00	525,991.00
tblLandUse	LandUseSquareFeet	525,990.00	525,991.00
tblLandUse	LotAcreage	12.08	25.70
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblSolidWaste	SolidWasteGenerationRate	494.43	1,052.11
tblTripsAndVMT	WorkerTripNumber	44.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
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	1.40
tblVehicleTrips	SU_TR	1.68	1.40
tblVehicleTrips	WD_TR	1.68	1.40
tblWater	IndoorWaterUseRate	121,635,187.50	25,289,785.00

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	0.0000	0.0000	0.0000	0.0000	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	2.4201	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Energy	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	461.4379	461.4379	0.0178	4.5000e-003	463.2248
Mobile	0.1875	0.3691	4.0018	0.0140	1.6544	9.2300e-003	1.6636	0.4392	8.5100e-003	0.4477	0.0000	1,268.4036	1,268.4036	0.0281	0.0000	1,269.1051
Waste						0.0000	0.0000		0.0000	0.0000	213.5688	0.0000	213.5688	12.6216	0.0000	529.1077
Water						0.0000	0.0000		0.0000	0.0000	8.0233	104.9215	112.9448	0.8284	0.0204	139.7203
Total	**2.6134**	**0.4220**	**4.0530**	**0.0143**	**1.6544**	**0.0133**	**1.6677**	**0.4392**	**0.0126**	**0.4518**	**221.5921**	**1,834.7761**	**2,056.3682**	**13.4958**	**0.0249**	**2,401.1719**

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	2.4201	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Energy	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	461.4379	461.4379	0.0178	4.5000e-003	463.2248
Mobile	0.1875	0.3691	4.0018	0.0140	1.6544	9.2300e-003	1.6636	0.4392	8.5100e-003	0.4477	0.0000	1,268.4036	1,268.4036	0.0281	0.0000	1,269.1051
Waste						0.0000	0.0000		0.0000	0.0000	213.5688	0.0000	213.5688	12.6216	0.0000	529.1077
Water						0.0000	0.0000		0.0000	0.0000	8.0233	104.9215	112.9448	0.8284	0.0204	139.7203
Total	**2.6134**	**0.4220**	**4.0530**	**0.0143**	**1.6544**	**0.0133**	**1.6677**	**0.4392**	**0.0126**	**0.4518**	**221.5921**	**1,834.7761**	**2,056.3682**	**13.4958**	**0.0249**	**2,401.1719**

	ROG	NOx	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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,678,905; Non-Residential Outdoor: 559,635; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	0.1875	0.3691	4.0018	0.0140	1.6544	9.2300e-003	1.6636	0.4392	8.5100e-003	0.4477	0.0000	1,268.4036	1,268.4036	0.0281	0.0000	1,269.1051
Unmitigated	0.1875	0.3691	4.0018	0.0140	1.6544	9.2300e-003	1.6636	0.4392	8.5100e-003	0.4477	0.0000	1,268.4036	1,268.4036	0.0281	0.0000	1,269.1051

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	734.81	734.81	734.81	4,440,004	4,440,004
Total	734.81	734.81	734.81	4,440,004	4,440,004

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	16.60	0.00	0.00	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	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	403.8967	403.8967	0.0167	3.4500e-003	405.3417
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	403.8967	403.8967	0.0167	3.4500e-003	405.3417
NaturalGas Mitigated	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
NaturalGas Unmitigated	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	1.07828e +006	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
Total		**5.8100e-003**	**0.0529**	**0.0444**	**3.2000e-004**		**4.0200e-003**	**4.0200e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**57.5412**	**57.5412**	**1.1000e-003**	**1.0500e-003**	**57.8832**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	1.07828e +006	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
Total		**5.8100e-003**	**0.0529**	**0.0444**	**3.2000e-004**		**4.0200e-003**	**4.0200e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**57.5412**	**57.5412**	**1.1000e-003**	**1.0500e-003**	**57.8832**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.26764e +006	403.8967	0.0167	3.4500e-003	405.3417
Total		**403.8967**	**0.0167**	**3.4500e-003**	**405.3417**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.26764e +006	403.8967	0.0167	3.4500e-003	405.3417
Total		**403.8967**	**0.0167**	**3.4500e-003**	**405.3417**

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	2.4201	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Unmitigated	2.4201	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139

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	0.5188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.4000e-004	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Total	**2.4201**	**6.0000e-005**	**6.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0131**	**0.0131**	**4.0000e-005**	**0.0000**	**0.0139**

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	0.5188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.4000e-004	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Total	**2.4201**	**6.0000e-005**	**6.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0131**	**0.0131**	**4.0000e-005**	**0.0000**	**0.0139**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	112.9448	0.8284	0.0204	139.7203
Unmitigated	112.9448	0.8284	0.0204	139.7203

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	25.2898 / 0	112.9448	0.8284	0.0204	139.7203
Total		**112.9448**	**0.8284**	**0.0204**	**139.7203**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	25.2898 / 0	112.9448	0.8284	0.0204	139.7203
Total		**112.9448**	**0.8284**	**0.0204**	**139.7203**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	213.5688	12.6216	0.0000	529.1077
Unmitigated	213.5688	12.6216	0.0000	529.1077

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1052.11	213.5688	12.6216	0.0000	529.1077
Total		**213.5688**	**12.6216**	**0.0000**	**529.1077**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1052.11	213.5688	12.6216	0.0000	529.1077
Total		**213.5688**	**12.6216**	**0.0000**	**529.1077**

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

Colony Commerce Warehouse (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	525.99	1000sqft	25.70	525,991.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on Site Plan.

Construction Phase - Operations run only.

Off-road Equipment - Operations run only.

Trips and VMT - Operations run only.

Architectural Coating - Operations run only.

Vehicle Trips - Trucks only.

Water And Wastewater - Indoor water use based on Water Supply Assessment.

Fleet Mix - Truck run only.

Area Coating -

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblConstructionPhase	NumDays	35.00	1.00
tblFleetMix	HHD	0.06	0.51
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.26
tblFleetMix	LHD2	5.6710e-003	0.00
tblFleetMix	MCY	6.2440e-003	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	1.1630e-003	0.00
tblFleetMix	MHD	0.02	0.23
tblFleetMix	OBUS	1.3260e-003	0.00

tblFleetMix	SBUS	8.2300e-004	0.00
tblFleetMix	UBUS	1.7150e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	525,990.00	525,991.00
tblLandUse	LandUseSquareFeet	525,990.00	525,991.00
tblLandUse	LotAcreage	12.08	25.70
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	WorkerTripNumber	44.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
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	0.34
tblVehicleTrips	SU_TR	1.68	0.34
tblVehicleTrips	WD_TR	1.68	0.34
tblWater	IndoorWaterUseRate	121,635,187.50	25,289,785.00

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	0.0000	0.0000	0.0000	0.0000	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	2.1451	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Energy	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	461.4379	461.4379	0.0178	4.5000e-003	463.2248
Mobile	0.4363	12.9963	3.3552	0.0435	1.4355	0.1091	1.5446	0.4063	0.1044	0.5106	0.0000	4,148.2074	4,148.2074	0.1308	0.0000	4,151.4784
Waste						0.0000	0.0000		0.0000	0.0000	100.3648	0.0000	100.3648	5.9314	0.0000	248.6496
Water						0.0000	0.0000		0.0000	0.0000	8.0233	104.9215	112.9448	0.8284	0.0204	139.7203
Total	**2.5872**	**13.0492**	**3.4064**	**0.0438**	**1.4355**	**0.1132**	**1.5487**	**0.4063**	**0.1084**	**0.5147**	**108.3881**	**4,714.5798**	**4,822.9679**	**6.9085**	**0.0249**	**5,003.0871**

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	2.1451	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Energy	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	461.4379	461.4379	0.0178	4.5000e-003	463.2248
Mobile	0.4363	12.9963	3.3552	0.0435	1.4355	0.1091	1.5446	0.4063	0.1044	0.5106	0.0000	4,148.2074	4,148.2074	0.1308	0.0000	4,151.4784
Waste						0.0000	0.0000		0.0000	0.0000	100.3648	0.0000	100.3648	5.9314	0.0000	248.6496
Water						0.0000	0.0000		0.0000	0.0000	8.0233	104.9215	112.9448	0.8284	0.0204	139.7203
Total	**2.5872**	**13.0492**	**3.4064**	**0.0438**	**1.4355**	**0.1132**	**1.5487**	**0.4063**	**0.1084**	**0.5147**	**108.3881**	**4,714.5798**	**4,822.9679**	**6.9085**	**0.0249**	**5,003.0871**

	ROG	NOx	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	Architectural Coating	Architectural Coating	12/4/2017	12/4/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 788,987; Non-Residential Outdoor: 262,996; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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	0.4363	12.9963	3.3552	0.0435	1.4355	0.1091	1.5446	0.4063	0.1044	0.5106	0.0000	4,148.2074	4,148.2074	0.1308	0.0000	4,151.4784
Unmitigated	0.4363	12.9963	3.3552	0.0435	1.4355	0.1091	1.5446	0.4063	0.1044	0.5106	0.0000	4,148.2074	4,148.2074	0.1308	0.0000	4,151.4784

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	179.89	179.89	179.89	3,273,972	3,273,972
Total	179.89	179.89	179.89	3,273,972	3,273,972

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Unrefrigerated Warehouse-No Rail	50.00	0.00	0.00	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	0.000000	0.000000	0.000000	0.260000	0.000000	0.230000	0.510000	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	403.8967	403.8967	0.0167	3.4500e-003	405.3417
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	403.8967	403.8967	0.0167	3.4500e-003	405.3417
NaturalGas Mitigated	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
NaturalGas Unmitigated	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	1.07828e+006	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
Total		**5.8100e-003**	**0.0529**	**0.0444**	**3.2000e-004**		**4.0200e-003**	**4.0200e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**57.5412**	**57.5412**	**1.1000e-003**	**1.0500e-003**	**57.8832**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Unrefrigerated Warehouse-No Rail	1.07828e+006	5.8100e-003	0.0529	0.0444	3.2000e-004		4.0200e-003	4.0200e-003		4.0200e-003	4.0200e-003	0.0000	57.5412	57.5412	1.1000e-003	1.0500e-003	57.8832
Total		**5.8100e-003**	**0.0529**	**0.0444**	**3.2000e-004**		**4.0200e-003**	**4.0200e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**57.5412**	**57.5412**	**1.1000e-003**	**1.0500e-003**	**57.8832**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.26764e+006	403.8967	0.0167	3.4500e-003	405.3417
Total		**403.8967**	**0.0167**	**3.4500e-003**	**405.3417**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.26764e+006	403.8967	0.0167	3.4500e-003	405.3417
Total		**403.8967**	**0.0167**	**3.4500e-003**	**405.3417**

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	2.1451	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Unmitigated	2.1451	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139

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	0.2438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.4000e-004	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Total	**2.1451**	**6.0000e-005**	**6.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0131**	**0.0131**	**4.0000e-005**	**0.0000**	**0.0139**

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	0.2438					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.4000e-004	6.0000e-005	6.7800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	4.0000e-005	0.0000	0.0139
Total	**2.1451**	**6.0000e-005**	**6.7800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0131**	**0.0131**	**4.0000e-005**	**0.0000**	**0.0139**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	112.9448	0.8284	0.0204	139.7203
Unmitigated	112.9448	0.8284	0.0204	139.7203

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	25.2898 / 0	112.9448	0.8284	0.0204	139.7203
Total		**112.9448**	**0.8284**	**0.0204**	**139.7203**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	25.2898 / 0	112.9448	0.8284	0.0204	139.7203
Total		**112.9448**	**0.8284**	**0.0204**	**139.7203**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	100.3648	5.9314	0.0000	248.6496
Unmitigated	100.3648	5.9314	0.0000	248.6496

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	494.43	100.3648	5.9314	0.0000	248.6496
Total		**100.3648**	**5.9314**	**0.0000**	**248.6496**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	494.43	100.3648	5.9314	0.0000	248.6496
Total		**100.3648**	**5.9314**	**0.0000**	**248.6496**

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

Katob Property Passenger Cars 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
Manufacturing	57.80	1000sqft	1.33	57,799.00	0
Unrefrigerated Warehouse-No Rail	173.40	1000sqft	3.98	173,396.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2040 Horizon Year

Land Use - Based on TIA

Construction Phase - Operation only

Off-road Equipment - Operation only

Trips and VMT - Operation only

On-road Fugitive Dust - Operation only

Architectural Coating - Operation only

Vehicle Trips - Based on the TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use -

Water And Wastewater - From Water Supply Assessment

Fleet Mix - Passenger Cars only

Consumer Products -

Landscape Equipment -

Solid Waste -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	115,598.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	346,793.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	115598	115597
tblAreaCoating	Area_Nonresidential_Interior	346793	346791
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	50

tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.07	0.00
tblFleetMix	HHD	0.07	0.00
tblFleetMix	LDA	0.57	1.00
tblFleetMix	LDA	0.57	1.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	9.0200e-003	0.00
tblFleetMix	LHD1	9.0200e-003	0.00
tblFleetMix	LHD2	4.0660e-003	0.00
tblFleetMix	LHD2	4.0660e-003	0.00
tblFleetMix	MCY	5.2850e-003	0.00
tblFleetMix	MCY	5.2850e-003	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MH	5.2300e-004	0.00
tblFleetMix	MH	5.2300e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	SBUS	7.3600e-004	0.00
tblFleetMix	SBUS	7.3600e-004	0.00
tblFleetMix	UBUS	1.2770e-003	0.00

tblFleetMix	UBUS	1.2770e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	VendorPercentPave	100.00	0.00
tblOnRoadDust	WorkerPercentPave	100.00	0.00
tblProjectCharacteristics	OperationalYear	2018	2040
tblTripsAndVMT	WorkerTripNumber	19.00	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	3.09
tblVehicleTrips	ST_TR	1.68	1.40
tblVehicleTrips	SU_TR	0.62	3.09
tblVehicleTrips	SU_TR	1.68	1.40
tblVehicleTrips	WD_TR	3.82	3.09

tblVehicleTrips	WD_TR	1.68	1.40
tblWater	IndoorWaterUseRate	13,366,250.00	0.00
tblWater	IndoorWaterUseRate	40,098,750.00	10,413,151.28

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	0.9429	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Energy	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	442.9644	442.9644	0.0157	4.9500e-003	444.8315
Mobile	0.0249	0.0556	0.7853	4.6900e-003	0.9487	2.0000e-003	0.9507	0.2518	1.8400e-003	0.2537	0.0000	425.4917	425.4917	3.4500e-003	0.0000	425.5779
Waste						0.0000	0.0000		0.0000	0.0000	47.6359	0.0000	47.6359	2.8152	0.0000	118.0159
Water						0.0000	0.0000		0.0000	0.0000	3.3036	43.2018	46.5054	0.3411	8.3800e-003	57.5303
Total	**0.9799**	**0.1653**	**0.8804**	**5.3500e-003**	**0.9487**	**0.0104**	**0.9590**	**0.2518**	**0.0102**	**0.2620**	**50.9395**	**911.6636**	**962.6031**	**3.1754**	**0.0133**	**1,045.9617**

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	0.9429	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Energy	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	442.9644	442.9644	0.0157	4.9500e-003	444.8315
Mobile	0.0249	0.0556	0.7853	4.6900e-003	0.9487	2.0000e-003	0.9507	0.2518	1.8400e-003	0.2537	0.0000	425.4917	425.4917	3.4500e-003	0.0000	425.5779
Waste						0.0000	0.0000		0.0000	0.0000	47.6359	0.0000	47.6359	2.8152	0.0000	118.0159
Water						0.0000	0.0000		0.0000	0.0000	3.3036	43.2018	46.5054	0.3411	8.3800e-003	57.5303
Total	**0.9799**	**0.1653**	**0.8804**	**5.3500e-003**	**0.9487**	**0.0104**	**0.9590**	**0.2518**	**0.0102**	**0.2620**	**50.9395**	**911.6636**	**962.6031**	**3.1754**	**0.0133**	**1,045.9617**

	ROG	NOx	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	Architectural Coating	Architectural Coating	4/1/2017	4/3/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Clean Paved Roads

3.2 Architectural Coating - 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					
Archit. Coating	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**

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 Architectural Coating - 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					
Archit. Coating	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**

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	0.0249	0.0556	0.7853	4.6900e-003	0.9487	2.0000e-003	0.9507	0.2518	1.8400e-003	0.2537	0.0000	425.4917	425.4917	3.4500e-003	0.0000	425.5779
Unmitigated	0.0249	0.0556	0.7853	4.6900e-003	0.9487	2.0000e-003	0.9507	0.2518	1.8400e-003	0.2537	0.0000	425.4917	425.4917	3.4500e-003	0.0000	425.5779

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	178.60	178.60	178.60	1,079,166	1,079,166
Unrefrigerated Warehouse-No Rail	242.75	242.75	242.75	1,466,819	1,466,819
Total	421.35	421.35	421.35	2,545,985	2,545,985

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
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No Rail	16.60	0.00	0.00	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
Manufacturing	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
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	323.5684	323.5684	0.0134	2.7600e-003	324.7259
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.5684	323.5684	0.0134	2.7600e-003	324.7259
NaturalGas Mitigated	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	119.3960	119.3960	2.2900e-003	2.1900e-003	120.1056
NaturalGas Unmitigated	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	119.3960	119.3960	2.2900e-003	2.1900e-003	120.1056

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					
Manufacturing	1.88194e+006	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003	0.0000	100.4272	100.4272	1.9200e-003	1.8400e-003	101.0240
Unrefrigerated Warehouse-No Rail	355462	1.9200e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9688	18.9688	3.6000e-004	3.5000e-004	19.0815
Total		**0.0121**	**0.1097**	**0.0921**	**6.5000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.3960**	**119.3960**	**2.2800e-003**	**2.1900e-003**	**120.1056**

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					
Manufacturing	1.88194e+006	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003	0.0000	100.4272	100.4272	1.9200e-003	1.8400e-003	101.0240
Unrefrigerated Warehouse-No Rail	355462	1.9200e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9688	18.9688	3.6000e-004	3.5000e-004	19.0815
Total		**0.0121**	**0.1097**	**0.0921**	**6.5000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.3960**	**119.3960**	**2.2800e-003**	**2.1900e-003**	**120.1056**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	597642	190.4214	7.8600e-003	1.6300e-003	191.1027
Unrefrigerated Warehouse-No Rail	417884	133.1469	5.5000e-003	1.1400e-003	133.6233
Total		**323.5684**	**0.0134**	**2.7700e-003**	**324.7259**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	597642	190.4214	7.8600e-003	1.6300e-003	191.1027
Unrefrigerated Warehouse-No Rail	417884	133.1469	5.5000e-003	1.1400e-003	133.6233
Total		**323.5684**	**0.0134**	**2.7700e-003**	**324.7259**

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	0.9429	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Unmitigated	0.9429	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1072					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Total	**0.9429**	**3.0000e-005**	**2.9300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**1.0000e-005**	**0.0000**	**6.1100e-003**

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	0.1072					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Total	**0.9429**	**3.0000e-005**	**2.9300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**1.0000e-005**	**0.0000**	**6.1100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	46.5054	0.3411	8.3800e-003	57.5303
Unmitigated	46.5054	0.3411	8.3800e-003	57.5303

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	10.4132 / 0	46.5054	0.3411	8.3800e-003	57.5303
Total		**46.5054**	**0.3411**	**8.3800e-003**	**57.5303**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	10.4132 / 0	46.5054	0.3411	8.3800e-003	57.5303
Total		**46.5054**	**0.3411**	**8.3800e-003**	**57.5303**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.6359	2.8152	0.0000	118.0159
Unmitigated	47.6359	2.8152	0.0000	118.0159

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	71.67	14.5484	0.8598	0.0000	36.0430
Unrefrigerated Warehouse-No Rail	163	33.0875	1.9554	0.0000	81.9730
Total		**47.6359**	**2.8152**	**0.0000**	**118.0159**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	71.67	14.5484	0.8598	0.0000	36.0430
Unrefrigerated Warehouse-No Rail	163	33.0875	1.9554	0.0000	81.9730
Total		**47.6359**	**2.8152**	**0.0000**	**118.0159**

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

Katob Property 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
Manufacturing	57.80	1000sqft	1.33	57,799.00	0
Unrefrigerated Warehouse-No Rail	173.40	1000sqft	3.98	173,396.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 32

Climate Zone 10 **Operational Year** 2040

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Trucks Only

Land Use - Based on site plan

Construction Phase -

Off-road Equipment - Based on 8 hour workday

Off-road Equipment - Based on 8 hour workday

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Based on Rule 1113

Vehicle Trips - Based on TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Rule 1113

Energy Use -

Water And Wastewater - WSA

Construction Off-road Equipment Mitigation - Rule 403

Fleet Mix - Trucks only

Trips and VMT -

On-road Fugitive Dust -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblFleetMix	HHD	0.07	0.44
tblFleetMix	HHD	0.07	0.51

Katob Property Mitigated - San Bernardino-South Coast County, Annual

tblFleetMix	LDA	0.57	0.00
tblFleetMix	LDA	0.57	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	9.0200e-003	0.37
tblFleetMix	LHD1	9.0200e-003	0.26
tblFleetMix	LHD2	4.0660e-003	0.00
tblFleetMix	LHD2	4.0660e-003	0.00
tblFleetMix	MCY	5.2850e-003	0.00
tblFleetMix	MCY	5.2850e-003	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MH	5.2300e-004	0.00
tblFleetMix	MH	5.2300e-004	0.00
tblFleetMix	MHD	0.02	0.18
tblFleetMix	MHD	0.02	0.23
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	SBUS	7.3600e-004	0.00
tblFleetMix	SBUS	7.3600e-004	0.00
tblFleetMix	UBUS	1.2770e-003	0.00
tblFleetMix	UBUS	1.2770e-003	0.00
tblLandUse	BuildingSpaceSquareFeet	57,800.00	57,799.00
tblLandUse	BuildingSpaceSquareFeet	173,400.00	173,396.00
tblLandUse	LandUseSquareFeet	57,800.00	57,799.00

tblLandUse	LandUseSquareFeet	173,400.00	173,396.00
tblProjectCharacteristics	OperationalYear	2018	2040
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TL	16.60	50.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.84
tblVehicleTrips	ST_TR	1.68	0.34
tblVehicleTrips	SU_TR	0.62	0.84
tblVehicleTrips	SU_TR	1.68	0.34
tblVehicleTrips	WD_TR	3.82	0.84
tblVehicleTrips	WD_TR	1.68	0.34

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	0.2972	2.5635	1.8159	3.4700e-003	0.2380	0.1442	0.3822	0.1055	0.1349	0.2404	0.0000	315.8343	315.8343	0.0572	0.0000	317.2637
2018	0.8752	1.7416	1.4456	2.8900e-003	0.0741	0.0943	0.1684	0.0200	0.0885	0.1085	0.0000	261.0644	261.0644	0.0441	0.0000	262.1669
Maximum	**0.8752**	**2.5635**	**1.8159**	**3.4700e-003**	**0.2380**	**0.1442**	**0.3822**	**0.1055**	**0.1349**	**0.2404**	**0.0000**	**315.8343**	**315.8343**	**0.0572**	**0.0000**	**317.2637**

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	0.2972	2.5635	1.8159	3.4700e-003	0.1429	0.1442	0.2872	0.0547	0.1349	0.1895	0.0000	315.8341	315.8341	0.0572	0.0000	317.2634
2018	0.8752	1.7416	1.4456	2.8900e-003	0.0741	0.0943	0.1684	0.0200	0.0885	0.1085	0.0000	261.0642	261.0642	0.0441	0.0000	262.1667
Maximum	**0.8752**	**2.5635**	**1.8159**	**3.4700e-003**	**0.1429**	**0.1442**	**0.2872**	**0.0547**	**0.1349**	**0.1895**	**0.0000**	**315.8341**	**315.8341**	**0.0572**	**0.0000**	**317.2634**

	ROG	**NOx**	**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**	**30.46**	**0.00**	**17.27**	**40.51**	**0.00**	**14.57**	**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**	1.3019	1.3019
2	**9-1-2017**	**11-30-2017**	1.1710	1.1710
3	**12-1-2017**	**2-28-2018**	1.0724	1.0724
4	**3-1-2018**	**5-31-2018**	1.0453	1.0453
5	**6-1-2018**	**8-31-2018**	0.8813	0.8813
		Highest	1.3019	1.3019

2.2 Overall Operational

<u>Unmitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive 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	0.9027	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Energy	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	442.9644	442.9644	0.0157	4.9500e-003	444.8315
Mobile	0.1091	2.4396	0.8793	0.0229	0.8567	9.7600e-003	0.8664	0.2422	9.3200e-003	0.2515	0.0000	2,193.3724	2,193.3724	0.0529	0.0000	2,194.6936
Waste						0.0000	0.0000		0.0000	0.0000	47.6359	0.0000	47.6359	2.8152	0.0000	118.0159
Water						0.0000	0.0000		0.0000	0.0000	16.9620	221.8140	238.7759	1.7513	0.0430	295.3820
Total	**1.0238**	**2.5493**	**0.9744**	**0.0236**	**0.8567**	**0.0181**	**0.8748**	**0.2422**	**0.0177**	**0.2598**	**64.5979**	**2,858.1565**	**2,922.7544**	**4.6350**	**0.0480**	**3,052.9291**

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	0.9027	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Energy	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	442.9644	442.9644	0.0157	4.9500e-003	444.8315
Mobile	0.1091	2.4396	0.8793	0.0229	0.8567	9.7600e-003	0.8664	0.2422	9.3200e-003	0.2515	0.0000	2,193.3724	2,193.3724	0.0529	0.0000	2,194.6936
Waste						0.0000	0.0000		0.0000	0.0000	47.6359	0.0000	47.6359	2.8152	0.0000	118.0159
Water						0.0000	0.0000		0.0000	0.0000	16.9620	221.8140	238.7759	1.7513	0.0430	295.3820
Total	**1.0238**	**2.5493**	**0.9744**	**0.0236**	**0.8567**	**0.0181**	**0.8748**	**0.2422**	**0.0177**	**0.2598**	**64.5979**	**2,858.1565**	**2,922.7544**	**4.6350**	**0.0480**	**3,052.9291**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2017	6/14/2017	5	10	
2	Grading	Grading	6/15/2017	7/12/2017	5	20	
3	Building Construction	Building Construction	7/13/2017	5/30/2018	5	230	
4	Paving	Paving	5/31/2018	6/27/2018	5	20	
5	Architectural Coating	Architectural Coating	6/28/2018	7/25/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 346,793; Non-Residential Outdoor: 115,598; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0903**	**0.0144**	**0.1047**	**0.0497**	**0.0132**	**0.0629**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

3.2 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	6.0000e-004	5.2000e-004	5.0300e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9298	0.9298	4.0000e-005	0.0000	0.9307
Total	**6.0000e-004**	**5.2000e-004**	**5.0300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9298**	**0.9298**	**4.0000e-005**	**0.0000**	**0.9307**

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					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0352**	**0.0144**	**0.0496**	**0.0194**	**0.0132**	**0.0326**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

3.2 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	6.0000e-004	5.2000e-004	5.0300e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9298	0.9298	4.0000e-005	0.0000	0.9307
Total	**6.0000e-004**	**5.2000e-004**	**5.0300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9298**	**0.9298**	**4.0000e-005**	**0.0000**	**0.9307**

3.3 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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0307	0.3389	0.1710	3.0000e-004		0.0178	0.0178		0.0164	0.0164	0.0000	27.5595	27.5595	8.4400e-003	0.0000	27.7706
Total	**0.0307**	**0.3389**	**0.1710**	**3.0000e-004**	**0.0655**	**0.0178**	**0.0833**	**0.0337**	**0.0164**	**0.0500**	**0.0000**	**27.5595**	**27.5595**	**8.4400e-003**	**0.0000**	**27.7706**

3.3 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	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	**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**

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					0.0256	0.0000	0.0256	0.0131	0.0000	0.0131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0307	0.3389	0.1710	3.0000e-004		0.0178	0.0178		0.0164	0.0164	0.0000	27.5594	27.5594	8.4400e-003	0.0000	27.7705
Total	**0.0307**	**0.3389**	**0.1710**	**3.0000e-004**	**0.0256**	**0.0178**	**0.0433**	**0.0131**	**0.0164**	**0.0295**	**0.0000**	**27.5594**	**27.5594**	**8.4400e-003**	**0.0000**	**27.7705**

3.3 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	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	**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**

3.4 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	0.1900	1.6198	1.1091	1.6400e-003		0.1091	0.1091		0.1024	0.1024	0.0000	146.7006	146.7006	0.0361	0.0000	147.6042
Total	**0.1900**	**1.6198**	**1.1091**	**1.6400e-003**		**0.1091**	**0.1091**		**0.1024**	**0.1024**	**0.0000**	**146.7006**	**146.7006**	**0.0361**	**0.0000**	**147.6042**

3.4 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	0.0109	0.3082	0.0745	6.3000e-004	0.0146	2.5200e-003	0.0171	4.2200e-003	2.4100e-003	6.6300e-003	0.0000	60.3011	60.3011	4.6000e-003	0.0000	60.4162
Worker	0.0392	0.0339	0.3305	6.8000e-004	0.0649	4.8000e-004	0.0654	0.0172	4.4000e-004	0.0177	0.0000	61.1266	61.1266	2.4700e-003	0.0000	61.1883
Total	**0.0501**	**0.3420**	**0.4050**	**1.3100e-003**	**0.0795**	**3.0000e-003**	**0.0825**	**0.0215**	**2.8500e-003**	**0.0243**	**0.0000**	**121.4277**	**121.4277**	**7.0700e-003**	**0.0000**	**121.6045**

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	0.1900	1.6198	1.1091	1.6400e-003		0.1091	0.1091		0.1024	0.1024	0.0000	146.7005	146.7005	0.0361	0.0000	147.6040
Total	**0.1900**	**1.6198**	**1.1091**	**1.6400e-003**		**0.1091**	**0.1091**		**0.1024**	**0.1024**	**0.0000**	**146.7005**	**146.7005**	**0.0361**	**0.0000**	**147.6040**

3.4 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	0.0109	0.3082	0.0745	6.3000e-004	0.0146	2.5200e-003	0.0171	4.2200e-003	2.4100e-003	6.6300e-003	0.0000	60.3011	60.3011	4.6000e-003	0.0000	60.4162
Worker	0.0392	0.0339	0.3305	6.8000e-004	0.0649	4.8000e-004	0.0654	0.0172	4.4000e-004	0.0177	0.0000	61.1266	61.1266	2.4700e-003	0.0000	61.1883
Total	**0.0501**	**0.3420**	**0.4050**	**1.3100e-003**	**0.0795**	**3.0000e-003**	**0.0825**	**0.0215**	**2.8500e-003**	**0.0243**	**0.0000**	**121.4277**	**121.4277**	**7.0700e-003**	**0.0000**	**121.6045**

3.4 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	0.1447	1.2631	0.9493	1.4500e-003		0.0810	0.0810		0.0761	0.0761	0.0000	128.3943	128.3943	0.0315	0.0000	129.1807
Total	**0.1447**	**1.2631**	**0.9493**	**1.4500e-003**		**0.0810**	**0.0810**		**0.0761**	**0.0761**	**0.0000**	**128.3943**	**128.3943**	**0.0315**	**0.0000**	**129.1807**

3.4 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	8.4200e-003	0.2555	0.0581	5.6000e-004	0.0129	1.7600e-003	0.0147	3.7300e-003	1.6800e-003	5.4100e-003	0.0000	53.2895	53.2895	3.8800e-003	0.0000	53.3866
Worker	0.0309	0.0261	0.2552	5.8000e-004	0.0574	4.1000e-004	0.0578	0.0153	3.7000e-004	0.0156	0.0000	52.6013	52.6013	1.9100e-003	0.0000	52.6491
Total	**0.0394**	**0.2816**	**0.3132**	**1.1400e-003**	**0.0704**	**2.1700e-003**	**0.0725**	**0.0190**	**2.0500e-003**	**0.0210**	**0.0000**	**105.8908**	**105.8908**	**5.7900e-003**	**0.0000**	**106.0358**

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	0.1447	1.2631	0.9493	1.4500e-003		0.0810	0.0810		0.0761	0.0761	0.0000	128.3942	128.3942	0.0315	0.0000	129.1806
Total	**0.1447**	**1.2631**	**0.9493**	**1.4500e-003**		**0.0810**	**0.0810**		**0.0761**	**0.0761**	**0.0000**	**128.3942**	**128.3942**	**0.0315**	**0.0000**	**129.1806**

3.4 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	8.4200e-003	0.2555	0.0581	5.6000e-004	0.0129	1.7600e-003	0.0147	3.7300e-003	1.6800e-003	5.4100e-003	0.0000	53.2895	53.2895	3.8800e-003	0.0000	53.3866
Worker	0.0309	0.0261	0.2552	5.8000e-004	0.0574	4.1000e-004	0.0578	0.0153	3.7000e-004	0.0156	0.0000	52.6013	52.6013	1.9100e-003	0.0000	52.6491
Total	**0.0394**	**0.2816**	**0.3132**	**1.1400e-003**	**0.0704**	**2.1700e-003**	**0.0725**	**0.0190**	**2.0500e-003**	**0.0210**	**0.0000**	**105.8908**	**105.8908**	**5.7900e-003**	**0.0000**	**106.0358**

3.5 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	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1752**	**0.1480**	**2.3000e-004**		**9.5600e-003**	**9.5600e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**20.8116**	**20.8116**	**6.4800e-003**	**0.0000**	**20.9736**

3.5 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	8.9000e-004	7.5000e-004	7.3100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5063	1.5063	5.0000e-005	0.0000	1.5077
Total	**8.9000e-004**	**7.5000e-004**	**7.3100e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5063**	**1.5063**	**5.0000e-005**	**0.0000**	**1.5077**

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	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.1752**	**0.1480**	**2.3000e-004**		**9.5600e-003**	**9.5600e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**20.8116**	**20.8116**	**6.4800e-003**	**0.0000**	**20.9736**

3.5 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	8.9000e-004	7.5000e-004	7.3100e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5063	1.5063	5.0000e-005	0.0000	1.5077
Total	**8.9000e-004**	**7.5000e-004**	**7.3100e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5063**	**1.5063**	**5.0000e-005**	**0.0000**	**1.5077**

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	0.6697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5593
Total	**0.6727**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5593**

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	1.1200e-003	9.5000e-004	9.2600e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.9080	1.9080	7.0000e-005	0.0000	1.9098
Total	**1.1200e-003**	**9.5000e-004**	**9.2600e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.9080**	**1.9080**	**7.0000e-005**	**0.0000**	**1.9098**

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	0.6697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5593
Total	**0.6727**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5593**

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	1.1200e-003	9.5000e-004	9.2600e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.9080	1.9080	7.0000e-005	0.0000	1.9098
Total	**1.1200e-003**	**9.5000e-004**	**9.2600e-003**	**2.0000e-005**	**2.0800e-003**	**1.0000e-005**	**2.1000e-003**	**5.5000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.9080**	**1.9080**	**7.0000e-005**	**0.0000**	**1.9098**

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	0.1091	2.4396	0.8793	0.0229	0.8567	9.7600e-003	0.8664	0.2422	9.3200e-003	0.2515	0.0000	2,193.3724	2,193.3724	0.0529	0.0000	2,194.6936
Unmitigated	0.1091	2.4396	0.8793	0.0229	0.8567	9.7600e-003	0.8664	0.2422	9.3200e-003	0.2515	0.0000	2,193.3724	2,193.3724	0.0529	0.0000	2,194.6936

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	48.55	48.55	48.55	883,646	883,646
Unrefrigerated Warehouse-No Rail	59.30	59.30	59.30	1,079,311	1,079,311
Total	107.85	107.85	107.85	1,962,957	1,962,957

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
Manufacturing	50.00	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No Rail	50.00	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
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.370000	0.000000	0.180000	0.440000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.260000	0.000000	0.230000	0.510000	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	323.5684	323.5684	0.0134	2.7600e-003	324.7259
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.5684	323.5684	0.0134	2.7600e-003	324.7259
NaturalGas Mitigated	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	119.3960	119.3960	2.2900e-003	2.1900e-003	120.1056
NaturalGas Unmitigated	0.0121	0.1097	0.0921	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	119.3960	119.3960	2.2900e-003	2.1900e-003	120.1056

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					
Manufacturing	1.88194e+006	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003	0.0000	100.4272	100.4272	1.9200e-003	1.8400e-003	101.0240
Unrefrigerated Warehouse-No Rail	355462	1.9200e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9688	18.9688	3.6000e-004	3.5000e-004	19.0815
Total		**0.0121**	**0.1097**	**0.0921**	**6.5000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.3960**	**119.3960**	**2.2800e-003**	**2.1900e-003**	**120.1056**

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					
Manufacturing	1.88194e+006	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003	0.0000	100.4272	100.4272	1.9200e-003	1.8400e-003	101.0240
Unrefrigerated Warehouse-No Rail	355462	1.9200e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9688	18.9688	3.6000e-004	3.5000e-004	19.0815
Total		**0.0121**	**0.1097**	**0.0921**	**6.5000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.3960**	**119.3960**	**2.2800e-003**	**2.1900e-003**	**120.1056**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	597642	190.4214	7.8600e-003	1.6300e-003	191.1027
Unrefrigerated Warehouse-No Rail	417884	133.1469	5.5000e-003	1.1400e-003	133.6233
Total		**323.5684**	**0.0134**	**2.7700e-003**	**324.7259**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	597642	190.4214	7.8600e-003	1.6300e-003	191.1027
Unrefrigerated Warehouse-No Rail	417884	133.1469	5.5000e-003	1.1400e-003	133.6233
Total		**323.5684**	**0.0134**	**2.7700e-003**	**324.7259**

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	0.9027	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Unmitigated	0.9027	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Total	**0.9027**	**3.0000e-005**	**2.9300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**1.0000e-005**	**0.0000**	**6.1100e-003**

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	0.0670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	1.0000e-005	0.0000	6.1100e-003
Total	**0.9027**	**3.0000e-005**	**2.9300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**1.0000e-005**	**0.0000**	**6.1100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	238.7759	1.7513	0.0430	295.3820
Unmitigated	238.7759	1.7513	0.0430	295.3820

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	13.3663 / 0	59.6940	0.4378	0.0108	73.8455
Unrefrigerated Warehouse-No Rail	40.0988 / 0	179.0820	1.3135	0.0323	221.5365
Total		**238.7760**	**1.7513**	**0.0430**	**295.3820**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	13.3663 / 0	59.6940	0.4378	0.0108	73.8455
Unrefrigerated Warehouse-No Rail	40.0988 / 0	179.0820	1.3135	0.0323	221.5365
Total		**238.7760**	**1.7513**	**0.0430**	**295.3820**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.6359	2.8152	0.0000	118.0159
Unmitigated	47.6359	2.8152	0.0000	118.0159

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	71.67	14.5484	0.8598	0.0000	36.0430
Unrefrigerated Warehouse-No Rail	163	33.0875	1.9554	0.0000	81.9730
Total		**47.6359**	**2.8152**	**0.0000**	**118.0159**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	71.67	14.5484	0.8598	0.0000	36.0430
Unrefrigerated Warehouse-No Rail	163	33.0875	1.9554	0.0000	81.9730
Total		**47.6359**	**2.8152**	**0.0000**	**118.0159**

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

APPENDIX 3.2:

PROJECT SCREENING TABLES

Table 2: Screening Table for Implementation of GHG Reduction Measures for Commercial/Industrial Development

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency Development			
Building Envelope			
Insulation	2008 baseline (walls R-13; roof/attic R-30) Modestly Enhanced Insulation (walls R-13, roof/attic R-38)) Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) Greatly Enhanced Insulation (spray foam insulated walls R-15 or higher, roof/attic R-38 or higher) *(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)*	0 points 15 points 18 points 20 points	**15**
Windows	2008 Baseline Windows (0.57 U-factor, 0.4 solar heat gain coefficient [SHGC}) Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC) *(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)*	0 points 7 points 8 points 12 points	**8**
Cool Roof	Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	12 points 14 points 16 points	**12**
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) Blower Door HERS Verified Envelope Leakage or equivalent *(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)*	12 points 10 points	**-**
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls.		

Feature	Description	Assigned Point Values	Project Points
	Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials) Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials) Enhanced Thermal Mass (80% of floor or 80% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	4 points 6 points 24 points	-
Indoor Space Efficiencies			
Heating/ Cooling Distribution System	Minimum Duct Insulation (R-4.2 required) Modest Duct insulation (R-6) Enhanced Duct Insulation (R-8) Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent) *(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)*	0 points 8 points 10 points 14 points	**14**
Space Heating/ Cooling Equipment	2008 Minimum HVAC Efficiency (EER 13/60% AFUE or 7.7 HSPF) Improved Efficiency HVAC (EER 14/65% AFUE or 8 HSPF) High Efficiency HVAC (EER 15/72% AFUE or 8.5 HSPF) Very High Efficiency HVAC (EER 16/80% AFUE or 9 HSPF) *(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)*	0 points 7 points 8 points 12 points	-
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	-
Water Heaters	2008 Minimum Efficiency (0.57 Energy Factor) Improved Efficiency Water Heater (0.675 Energy Factor) High Efficiency Water Heater (0.72 Energy Factor) Very High Efficiency Water Heater (0.92 Energy Factor) Solar Pre-heat System (0.2 Net Solar Fraction) Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 points 14 points 16 points 19 points 4 points 8 points	-
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours.		

Feature	Description	Assigned Point Values	Project Points
	All peripheral rooms within building have at least one window or skylight All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) All rooms daylighted	1 points 5 points 7 points	7
Artificial Lighting	2008 Minimum (required) Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) High Efficiency Lights (50% of in-unit fixtures are high efficacy) Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	0 points 9 points 12 points 14 points	9
Appliances	Energy Star Commercial Refrigerator (new) Energy Star Commercial Dish Washer (new) Energy Star Commercial Cloths Washing	4 points 4 points 4 points	8
Miscellaneous Commercial/Industrial Building Efficiencies			
Building Placement	North/South alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	6 point	6
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21st.	6 Points	-
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	-
Existing Commercial building Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings within the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the Ontario Planning Department. The decision to allow applicants the ability to participate in this program will be evaluated based upon, but not limited to the following:	TBD	-

Feature	Description	Assigned Point Values	Project Points
	Will the energy efficiency retrofit project benefit low income or disadvantaged communities? Does the energy efficiency retrofit project fit within the overall assumptions in the reduction measure associated with commercial building energy efficiency retrofits? Does the energy efficiency retrofit project provide co-benefits important to the City? Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.		
Reduction Measure PS E4: Commercial/Industrial Renewable Energy			
Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:		-
	Solar Ready Roofs (sturdy roof and electric hookups)	2 points	
	10 percent of the power needs of the project	8 points	
	20 percent of the power needs of the project	14 points	
	30 percent of the power needs of the project	20 points	
	40 percent of the power needs of the project	26 points	
	50 percent of the power needs of the project	32 points	
	60 percent of the power needs of the project	38 points	
	70 percent of the power needs of the project	44 points	
	80 percent of the power needs of the project	50 points	
	90 percent of the power needs of the project	56 points	
	100 percent of the power needs of the project	60 points	
Wind turbines	Some areas of the City lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments:		-
	10 percent of the power needs of the project	8 points	
	20 percent of the power needs of the project	14 points	
	30 percent of the power needs of the project	20 points	
	40 percent of the power needs of the project	26 points	
	50 percent of the power needs of the project	32 points	
	60 percent of the power needs of the project	38 points	
	70 percent of the power needs of the project	44 points	

Feature	Description	Assigned Point Values	Project Points
	80 percent of the power needs of the project 90 percent of the power needs of the project 100 percent of the power needs of the project	50 points 56 points 60 points	
Off-site renewable energy project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing commercial/industrial that will help implement reduction measures associated with existing buildings. These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	-
Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	-
Reduction Measure PS W2: Commercial/Industrial Water Conservation			
Irrigation and Landscaping			
Water Efficient Landscaping	Eliminate conventional turf from landscaping Only moderate water using plants Only low water using plants Only California Native landscape that requires no or only supplemental irrigation	0 points 3 points 4 points 8 points	4
Trees	Increase tree planting in parking areas 50% beyond City Code requirements	TBD	-
Water Efficient irrigation systems	Low precipitation spray heads< .75"/hr or drip irrigation Weather based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)	1 point 5 points	1
Recycled Water	Recycled water connection (purple pipe)to irrigation system on site	5 points	5
Storm water Reuse Systems	Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	-

Feature	Description	Assigned Point Values	Project Points
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3 points	-
Toilets	Water Efficient Toilets/Urinals (1.5gpm) Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 4 points	-
Faucets	Water Efficient faucets (1.28gpm)	3 points	-
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	4 points	4
Commercial Laundry Washers	Water Efficient laundry (15% water savings) High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	3 points 6 points	-
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	-
Reduction Measure PS T1: Land Use Based Trips and VMT Reduction			
Mixed Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	-
Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	-
Reduction Measure PS T2: Bicycle Master Plan			
Bicycle Infrastructure	Ontario's Bicycle Master Plan is extensive and describes the construction on 11.5 miles of Class I bike paths and 23 miles of Class II and Class III bikeways to build upon the current 8 miles of bikeways. Provide bicycle paths within project boundaries. Provide bicycle path linkages between project site and other land uses. Provide bicycle path linkages between project site and transit.	TBD TBD 2 points 5 points	-

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS T3: Electric Vehicle Infrastructure			
Electric Vehicles	Provide public charging station for use by an electric vehicle. *(ten points for each charging station within the facility)*	10 points	**10**
Reduction Measure PS T4: Employee Based Trip &VMT Reduction Policy			
Compressed Work Week	Reduce the number of days per week that employees need to be on site will reduce the number of vehicle trips associated with commercial/industrial development. Compressed work week such that full time employees are on site: 5 days per week 4 days per week on site 3 days per week on site	TBD	-
Car/Vanpools	Car/vanpool program Car/vanpool program with preferred parking Car/vanpool with guaranteed ride home program Subsidized employee incentive car/vanpool program Combination of all the above	TBD	-
Employee Bicycle/ Pedestrian Programs	Complete sidewalk to residential within ½ mile Complete bike path to residential within 3 miles Bike lockers and secure racks Showers and changing facilities Subsidized employee walk/bike program (Note combine all applicable points for total value)	TBD	-
Shuttle/Transit Programs	Local transit within ¼ mile Light rail transit within ½ mile Shuttle service to light rail transit station Guaranteed ride home program Subsidized Transit passes Note combine all applicable points for total value	TBD	-
CRT	Employer based Commute Trip Reduction (CRT). CRTs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: Incentive based CRT Programs (1-8 points) Mandatory CRT programs (5-20 points)	TBD	-
Other Trip Reductions	Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project.	TBD	-
Total Points from Commercial/Industrial Project:			**103**