Goodman Logistics Center

GREENHOUSE GAS ANALYSIS

CITY OF EL MONTE

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(1)	Reference
APS	Alternative Planning Organizations
ARB	California Air Resources Board
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
MPOs	Metropolitan Planning Organizations
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	Goodman Logistics Center
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategies
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile Organic Compounds

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EXECUTIVE SUMMARY

Pursuant to CEQA Guidelines § 15164 (a) the lead agency shall prepare an addendum to a previously certified environmental impact report (EIR) if some changes or additions are necessary but none of the conditions described in §15162 calling for preparation of a subsequent EIR have occurred. More specifically, §15162 (a)(3)(A) states that no subsequent EIR shall be prepared for the project unless the project will have one more significant effects not discussed in the previous EIR. §15162(a)(3)(B) states that no subsequent EIR shall be prepared for the project unless significant effects previously examined will be substantially more severe than shown in the previous EIR. Significant and unavoidable construction and operational impacts were previously identified and disclosed in the previously analyzed City of El Monte General Plan and Zoning Code EIR SCH No. 2008071012 (2011) (1) (referred to herein as "City's General Plan EIR").

The current greenhouse gas study prepared for the proposed Project utilizes the same analysis methodologies and assumptions (as it relates to Project trip generation methodology) as that assumed and evaluated in the EIR. Based on the revised analysis, there will be no new or more severe significant and unavoidable impacts from those previously identified, and therefore a subsequent EIR is not required.

The overall GHG impacts of the proposed Project would be less than what was disclosed in the City's General Plan EIR and therefore, no new or more severe significant and unavoidable impacts would occur.

As shown on Table ES-1, the Project will result in approximately 3,860.58 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 14,913.54 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 such, the Project has the potential to generate a total of approximately 18,774.12 MTCO2e per year. As shown on Table ES-2, the proposed Project is anticipated to produce GHG emissions that are less than the expected emissions based on the land use assumptions used in the City's General Plan EIR. Additionally, the proposed Project's emissions would be 18,774.12 $MTCO_2e$ per year and the existing emissions that would occur if the site were developed consistent with the land use assumptions in the General Plan EIR's projected 2011 Business As Usual (BAU) assumption would be 52,454.40 $MTCO_2e$ per year. This yields a reduction of approximately 64.21% from BAU which satisfies the target to achieve a 15% reduction below BAU as specified in the City's General Plan EIR Mitigation Measure 5-1.

TABLE ES-1: PROJECT GHG EMISSIONS

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	174.42	0.02	0.00	100.04
Area	0.03	0.00	0.00	0.03
Energy	1,592.42	0.06	0.01	1,598.25
Mobile Sources (Passenger Cars)	2,079.32	0.04	0.00	2,080.42
Mobile Sources (Trucks)	12,817.53	0.62	0.00	12,833.12
Waste	234.72	13.93	0.00	583.98
Water Usage	1,275.82	9.36	0.23	1,578.28
Total CO_2E (Project - All Sources)	**18,774.12**			

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

TABLE ES-2: PROJECT VS 2011 BAU EMISSIONS

Emission Source	Total CO2e Emissions (Metric Tons Per Year)	
	Project	2011 BAU
Annual construction-related emissions amortized over 30 years	100.04	100.04
Area	0.03	0.03
Energy	1,598.25	5,534.31
Mobile Sources (Passenger Cars)	2,080.42	13,304.17
Mobile Sources (Trucks)	12,833.12	31,239.50
Waste	583.98	721.98
Water Usage	1,578.28	1,554.37
Total CO_2E (All Sources)	**18,774.12**	**52,454.40**
Percent Difference	**64.21%**	
Required Percent Reduction from BAU	**15%**	
Does the Project Meet the General Plan's Required Reduction Percentage?	**YES**	

1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Goodman Logistics Center ("Project").

The purpose of this GHGA is to evaluate net new 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. The GHGA also compares the proposed Project's impacts with the prior Project's impacts analyzed and disclosed in the City of El Monte General Plan and Zoning Code Update EIR ("General Plan EIR").

1.1 SITE LOCATION

The proposed Goodman Logistics Center Project is located on the southeast corner of Shirley Avenue and Lower Azusa Road in the City of El Monte, as shown on Exhibit 1-A. The proposed Project is located approximately 1.2 miles north of Interstate 10 (I-10), roughly 3,300 feet west of the closest airport, El Monte Airport, and approximately 50 feet north of existing Union Pacific Railroad lines.

The Project site is currently occupied by a Vons Grocery warehouse. Existing single-family residential uses in the Project study area are located north across Lower Azusa Road, east on Arden Drive, and south of the Project site across Union Pacific Railroad lines. The Gidley Elementary School is located immediate adjacent to the Project's eastern site boundary. Existing industrial uses are located west and east of the Project site.

1.2 STUDY AREA

The Project site is currently occupied with modular buildings, which will be removed prior to building construction. The areas north and south of the Project site include residential uses. The area to the west and east of the Project site consists of industrial uses. The Gidley Elementary School also is located adjacent to the site's eastern boundary.

1.3 PROJECT DESCRIPTION

It is our understanding that the Project is proposed to consist of 1,235,340 square feet of high-cube transload and short-term storage warehouse use within two buildings (572,240 square feet for Building 1 and 663,100 square feet for Building 2), as shown on Exhibit 1-B. For the purposes of this analysis, the Project is anticipated to be developed in a single phase with an Opening Year of 2020. The proposed Project land use is consistent with the City of El Monte General Plan and Zoning Code Environmental Impact Report (EIR).

1.4 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air pollutant

emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of greenhouse gas emissions include:

- Global Warming Solutions Act of 2006 (AB32) (2). AB 32 is applicable to the Project because, as a development Project, the Goodman Logistics Center will need to meet 2020 GHG reduction goals set forth in AB 32. AB 32 requires the California Air Resources Board (CARB or ARB) to develop regulations and market mechanisms to reduce California's greenhouse gas emissions to 1990 levels by the year of 2020. Many of the GHG reduction measures outlined in AB 32 (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles (3). AB 1493 (Pavley) establishes fuel efficiency rating for model year 2009-2016 passenger cars and light trucks. AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to and from the Project site are required by the State of California to implement GHG emission reduction standards related to fuel efficiency. The CARB anticipates that implementation of the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 30 percent in 2016 compared to emissions that occurred prior to 2009 when AB 1492 was enacted.
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction (4). The Title 24 energy standards address the energy efficiency of new (and altered) homes and commercial buildings. Because energy efficiency reduces energy costs, increases reliability and availability of electricity, improves building occupant comfort, and reduces impacts to the environment, standards are important and necessary for California's energy future. Therefore, a new development such as the Goodman Logistics Center Project is required to comply with Title 24 Code of Regulations and would therefore increase the Project's energy efficiency and reduce its environmental impact.
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020 (5). Because the LCFS applies to any transportation fuel that is sold, supplied, or offered for sale in California, and to any person who, as a regulated party, is responsible for a transportation fuel in a calendar year, all vehicles accessing the site will be required to comply with LCFS. Implementation of such a standard will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel pool used in California.
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (6). As new development project within the State of California, the Goodman Logistics Center Project is required to comply with the City of El Monte 's adopted water efficient landscape requirements and would therefore be consistent with the requirements of AB1881 in order to help conserve California's water resources and to promote efficient water use.

1.5 PROJECT CONSISTENCY WITH CITY OF EL MONTE EIR MITIGATION MEASURES

The City of El Monte EIR mitigation measures for GHGs are shown below and are required for the Project.

MM GHG 5-1

Mitigation Measure 5-1 of the City's General Plan EIR requires the City to prepare and adopt a Climate Action Plan within 24 months after adopting the 2011 General Plan Update requiring the City to achieve a reduction target of 15 percent from existing (2011) conditions by 2020 Mitigation Measure 5-1 requires the CAP to include an emissions inventory and identify emission targets, as summarized below.

- **Emission Inventories:** A baseline inventory of estimated GHG Emissions from the Project site was quantified for 2011, taking into account applicable regulatory requirements that were in place in 2011 to reduce GHG emissions. GHG emissions for the Project site in 2011 was estimated to be 52,454.40 MTCO2e per year as compared to the currently proposed Project which is anticipated to produce 18,774 MTCO2e per year.
- **Emission Targets:** MM GHG 5-1 requires the City to reduce GHG Emissions by at least 15% from the exiting 2011 conditions by 2020. The Project's calculated emissions for the year 2020 would be approximately 64.21% less than the 2011 BAU conditions. Thus, the Project would meet the required 15% BAU reduction.

In order to achieve the City's required 15% BAU reduction, Mitigation Measure 5-1 identifies a number of specific measures that shall be considered during the development of the CAP. Refer to Section 5.5 of the City's General Plan EIR for the list of mitigation measures to be considered.

MM GHG 5-2

Mitigation Measure 5-2 of the General Plan EIR requires that prior to adoption of the CAP as required by Mitigation Measure 5-1, the City shall consider the list of mitigation measures specified in Mitigation Measure 5-1 as part of its review of new development to determine whether new development would achieve the City's 15% reduction target below BAU.

As outlined above, the City and the project applicant would fulfill the requirements of MM GHG 5-2 since the Project will exceed the 15% reduction below BAU target by 2020. Further, and even though not required because the Project achieves a 15% reduction below BAU, the Project applicant will nonetheless implement the following applicable mitigation measures identified in the General Plan EIR Mitigation Measure 5-1:

- Require that new development projects in the City that involve demolition prepare a demolition plan to reduce waste by recycling and/or salvaging a nonhazardous construction and demolition debris.
- Require that new developments design buildings to be energy efficient by sitting buildings to take advantage of shade, prevailing winds, landscaping, and sun screening to reduce energy required for cooling.
- Require diesel emission reduction strategies to eliminate and/or reduce idling at truck stops, warehouses, and distribution facilities throughout the City.

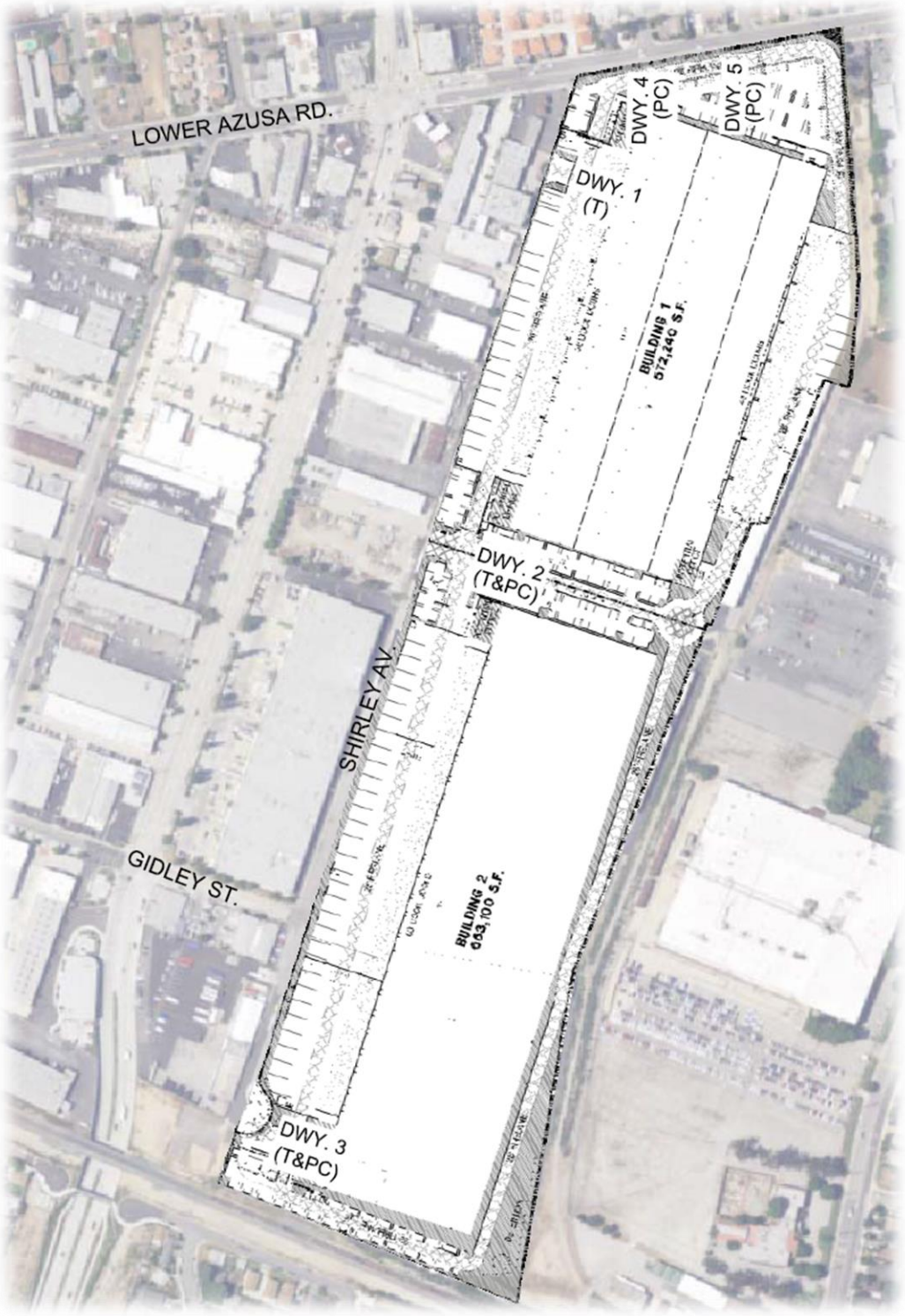
- Require all new traffic lights installed by energy efficient traffic signals.
- Require the use of reclaimed water for landscape irrigation in all new development and on public property where such connections are within the service boundaries of the City's reclaimed water system.
- Require all new landscaping irrigation systems installed within the City to be automated, high-efficient irrigation systems installed within the City to be automated, high-efficient irrigation systems to reduce water use and require use of bubbler irrigation; low-angle, low-flow spray heads; or moisture sensors. Conduct energy efficiency audits of existing municipal buildings by checking, repairing, and readjusting heating, ventilation, and air conditioning systems, lighting, water heating equipment, insultation, and weatherization.
    - Encouraging the necessary infrastructure to facilitate the use of zero-emission vehicles and clean alternative fuels, such as electric vehicle charging facilities and conveniently located alternative fueling stations.
    - Encouraging new construction to include vehicle access to properly wired outdoor receptacles to accommodate zero-emission vehicles and/or plug-in electric hybrids.
- Support the use of green building practices by:
    - Providing information, marketing, training, and technical assistant about green building practices.
- Adopt energy efficiency performance standards for buildings designed to achieve a greater reduction in energy and water use than currently required by state law, including:
    - Standards for the installation of "cool roofs."
    - Standards for improved overall efficiency of lighting systems.
    - Requirements for the use of Energy Star appliances and fixtures in discretionary new development.

MM GHG 5-3

MM GHG 5-3 requires the City to review new development proposals for consistency with the development pattern set forth in the Sustainable Communities Strategies Plan, when adopted by the Southern California Association of Governments (SCAG). Development of the proposed Project would not conflict with the applicable goals of SCAG's *2016-2040 RTP/SCS.* The *RTP/SCS's Transportation System/Goods Movement* appendix is applicable to the Project because the Project is located in the SCAG region and the Project proposes two high cube logistics warehouse buildings for intended uses consisting of a variety of light industrial uses, including warehousing/distribution. Because the Project site is located within the SCAG region, an analysis of the Project's consistency with applicable SCAG goals is provided in Table 3-3 in Section 3.8 of this GHGA, and concludes that the Project would not conflict with the applicable SCAG goals and is consistent with the Sustainable Communities Strategies Plan.

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN



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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

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.

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 (7).

2.3 GREENHOUSE GAS EMISSIONS INVENTORIES

Global

Worldwide anthropogenic (human) 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). Human GHG emissions data for Annex I nations are available through 2015. For the Year 2015, the sum of these emissions totaled approximately 28,872,564 Gg CO2e[1] (8) (9). 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 2015. The primary greenhouse gas emitted by human activities in the United States was CO2, representing approximately 83 percent of total greenhouse gas emissions (10). 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	11,895,765
United States	6,586,655
European Union (27 member countries)	4,315,773
Russian Federation	2,650,954
India	2,100,849
Japan	1,322,568
Total	**28,872,564**

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2017 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2015 greenhouse gas emissions inventory, California emitted 440.4 MMTCO2e including emissions resulting from

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://di.unfccc.int/ghg_profile_annex1 data for Annex I countries and http://di.unfccc.int/ghg_profile_non_annex1 for Non-Annex I counties.

imported electrical power in 2015 (11). 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 (12).

2.4 GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology 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.

Carbon Dioxide: Carbon dioxide (CO_2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (13).

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (14).

Methane: Methane (CH_4) 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.

Nitrous Oxide: Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (15).

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

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other

CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

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

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

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

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

Sulfur Hexafluoride: Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest global warming potential (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 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 Second Assessment Report (SAR), the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment

on climate change, range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride and GWP for the IPCC's 4th Assessment Report (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

GCC 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 GCC 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 GCC.

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 saltwater, 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.

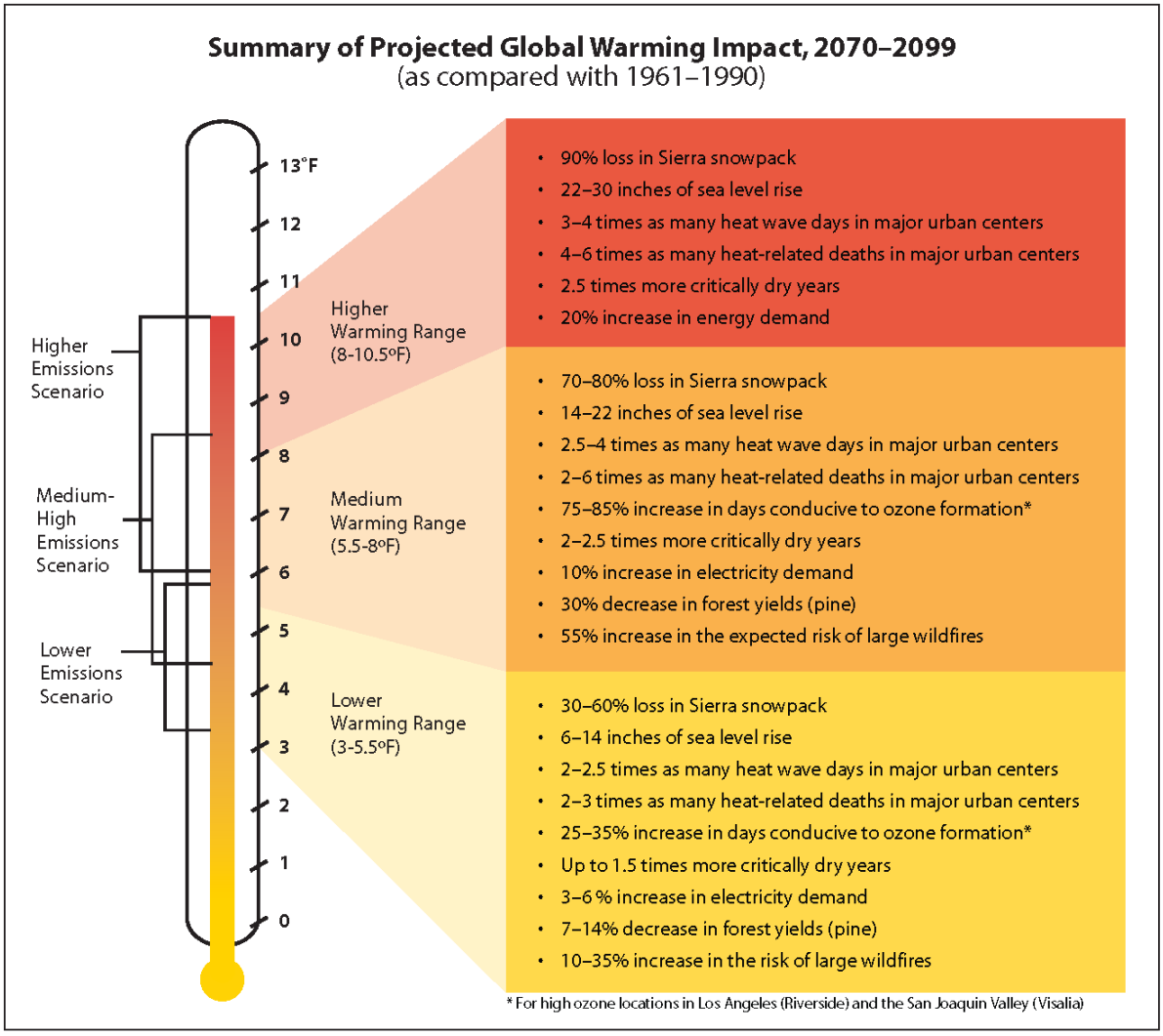
2.6 HUMAN HEALTH EFFECTS

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 the earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (17). Exhibit 2-A presents the potential impacts of global warming.

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

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

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT



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

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

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

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

2.7 REGULATORY SETTING

INTERNATIONAL

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

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 socioeconomic 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 U.S. 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.

International Climate Change Treaties. The Kyoto Protocol is an international agreement linked to the Convention. 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 an average of five percent 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, 2015 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) (21).

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.

GHG Endangerment. In *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 EPA 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 GHGs—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 GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG 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 U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (22).

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 U.S. 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 U.S.

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 the 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 GHGs. 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 GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S,, 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 GHG sources, starting with the largest GHG 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 GHG 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 GHG 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. It should be noted that on February 9, 2016 the U.S. Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO2 standards.

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 U.S. 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 GHG 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 took 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 GHG 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 GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG 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 Assembly Bill (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, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "GHGs" as defined under AB 32 include carbon dioxide, methane, N_2O, 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.

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)

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. 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).

2017 Climate Change Scoping Plan Update

In November 2017, ARB released the final 2017 Scoping Plan Update, which identifies the State's post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (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.

The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO2e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydroflurocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB

recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 MTCO2e or less per capita by 2030 and 2 MTCO2e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a climate action plan or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by ARB, 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 (23) (24).

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 GHG emissions to 40 percent 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 GHG reduction target of 80 percent 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 (25) (26).

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 GHG 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) (27).

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 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 GHG 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 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 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 GHG 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 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

[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.

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 350— Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. 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 45 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 GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG 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 U.S. 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 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 tits 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-carbon intensity (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 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 had 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 GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs 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 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 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. 23 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 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017.

The 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 on January 1, 2011, and is administered by the California Building Standards Commission. CALGreen 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. CALGreen 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. CALGreen 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 of 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 Department of Water Resources (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; and
- Reporting requirements for local agencies.

ARB Refrigerant Management Program. 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 GHG 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.

Phase I and 2 Heavy-Duty Vehicle GHG Standards. ARB has adopted a new regulation for greenhouse gas (GHG) emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas

Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. In September 2011, the U.S. EPA adopted their new rule for heavy-duty trucks and engines. The U.S. EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) heavy-duty pickups and vans; b) vocational vehicles; and c) combination tractors. The U.S. EPA rule does not regulate trailers.

ARB staff has worked jointly with the U.S. Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) on the next phase of federal greenhouse gas (GHG) emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.

U.S. EPA and NHTSA issued a Notice of Proposed Rulemaking for Phase 2 in June 2015, and published the final rule in October 2016. ARB staff plans to bring a proposed California Phase 2 program before the Board in early 2018. ARB staff remains committed to a strong national program which will support California's GHG reduction commitments.

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 GHG Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to 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

SCAQMD is the agency responsible for air quality planning and regulation in the SoCAB. The SCAQMD 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 acts as 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.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SoCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG 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 GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG 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:
    - Residential and Commercial land use: 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 interim thresholds used 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.

3 PROJECT GREENHOUSE GAS IMPACT

3.1 INTRODUCTION

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

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related greenhouse gas impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would:

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

In consideration of the first threshold, the Project would result in significant GHG emissions that may have a significant impact on the environment if it did not meet the City's GHG reduction target of 15% below BAU as required by General Plan EIR Mitigation Measures 5-1 and 5-2.

With respect to the second threshold, and in consideration of the requirements set forth in Mitigation Measure 5-3 of the General Plan EIR, the Project would result in significant impacts if it were to conflict with SCAG's *2016-2040 RTP/SCS*. The Project also would result in a significant impact if it were to conflict with AB 32 or SB 32, which are the only other applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions that are in effect in the Project area.

3.3 PROJECT RELATED GREENHOUSE GAS EMISSIONS

CEQA Guidelines 15064.4 (b) (1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project (28).

On October 17, 2017, 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™) v2016.3.2. 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 (29). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1 through Appendix 3.2.

3.4 CONSTRUCTION AND OPERATIONAL LIFE-CYCLE ANALYSIS

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

3.5 CONSTRUCTION EMISSIONS

The report, Goodman Logistics Center Air Quality Impact Analysis (Urban Crossroads, Inc., 2018) (Project AQIA) provides additional details on the specific construction-related inputs programmed in the CalEEMod model (30).

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 (31). As such, construction emissions (including demolition) 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

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 CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building, the building energy use emissions do not include street lighting[4]. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.

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.

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, Goodman Logistics Center Traffic Impact Analysis (Urban Crossroads) 2018 were utilized in this analysis (32). It should be noted that the Project's traffic study presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. Notwithstanding, for purposes of the air quality study, the PCE trips were not used. Rather, to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis.

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their *Trip Generation* manual, 10th Edition, 2017, for high-cube transload and short-term storage warehouse (ITE Land Use Code 154). (33) Total vehicle mix percentages were obtained based on guidance from the City of Fontana's Truck Trip Generation Study (August 2003), as identified in the Project's TIA. The City of Fontana identifies the vehicle mix for high-cube warehouse/distribution center land uses as follows: 68.8% passenger cars, 5.2% 2-axle trucks, 6.5% 3-axle trucks, and 19.5% 4+-axle trucks. For analytical purposes, 2-axle trucks are assumed to be Light-Heavy-Duty (LHD), 3-axle trucks are

[4] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

assumed to be Medium-Heavy-Duty (MHD), and 4+-axle trucks are assumed to be Heavy-Heavy-Duty (HHD).

3.7 EMISSIONS SUMMARY

As shown on Table 3-1, the Project will result in approximately 3,860.58 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, development of the Project has the potential to result in an additional 14,913.54 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 such, the Project has the potential to generate a total of approximately 18,774.12 MTCO2e per year.

For purposes of estimating future traffic, the General Plan and Zoning Code EIR designates a mix of 30% General Light Industrial, 40% Industrial Park, 20% Warehouse, and 10% Manufacturing uses for the underlying zoning for the Project site. Additionally, the General Plan EIR assumed that industrial properties would be developed with an average estimated Floor Area Ratio (FAR) of 0.5. As such, a land use mix and intensity commensurate with what is assumed in the General Plan is utilized to determine operational emissions from existing allowable uses for the Project site under the EIR (e.g. 2011 BAU).

As shown on Table 3-2, the proposed Project is anticipated to produce GHG emissions that are less than expected emissions based on the assumptions used in the City's General Plan EIR. Additionally, the proposed Project's emissions would be 18,774.12 $MTCO_2e$ per year and the existing emissions that would occur if the site were developed consistent with the land use assumptions in the General Plan represented by 2011 Business As Usual (BAU) would be 52,454.40 $MTCO_2e$ per year. This yields a reduction of approximately 64.21% from BAU which satisfies the City's BAU target of a 15% reduction.

TABLE 3-1: PROJECT GHG EMISSIONS

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	174.42	0.02	0.00	100.04
Area	0.03	0.00	0.00	0.03
Energy	1,592.42	0.06	0.01	1,598.25
Mobile Sources (Passenger Cars)	2,079.32	0.04	0.00	2,080.42
Mobile Sources (Trucks)	12,817.53	0.62	0.00	12,833.12
Waste	234.72	13.93	0.00	583.98
Water Usage	1,275.82	9.36	0.23	1,578.28
Total CO_2E (Project - All Sources)	**18,774.12**			

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

TABLE 3-2: PROJECT VS 2011 BAU GHG EMISSIONS

Emission Source	Total CO2e Emissions (Metric Tons Per Year)	
	Project	**2011 BAU**
Annual construction-related emissions amortized over 30 years	100.04	100.04
Area	0.03	0.03
Energy	1,598.25	5,534.31
Mobile Sources (Passenger Cars)	2,080.42	13,304.17
Mobile Sources (Trucks)	12,833.12	31,239.50
Waste	583.98	721.98
Water Usage	1,578.28	1,554.37
Total CO_2E (All Sources)	**18,774.12**	**52,454.40**
Percent Reduction from BAU	**64.21%**	
Required General Plan Reduction	**15%**	
Meets Requirement?	**YES**	

3.8 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the SCAG region was prepared to ensure that the Southern California region attains the per capita vehicle miles targets for passenger vehicles identified by CARB, as required by Senate Bill 375 (34). The Project would be consistent with the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

Development of the proposed Project would not conflict with the applicable goals of SCAG's *2016-2040 RTP/SCS.* The *RTP/SCS's Transportation System/Goods Movement* appendix is applicable to the Project because the Project is located in the SCAG region and the Project proposes one high cube logistics warehouse building for intended uses consisting of a variety of light industrial uses, including warehousing/distribution. Because the Project site is located within the SCAG region, an analysis of the Project's consistency with applicable SCAG goals is provided in Table 3-3.

TABLE 3-3: ANALYSIS OF CONSISTENCY WITH SCAG 2016-2040 RTP/SCS STRATEGY GOALS

2016 RTP/SCS Goal	Goal Statement	Project Consistency Discussion
G2	Maximize mobility and accessibility for all people and goods in the region.	No inconsistency identified. The Project Site is located approximately 37 miles from the Ports of LA/Long Beach. As such, development of the Site as a high cube logistics warehouse building would efficiently facilitate the regional movement of goods from their arrival into the United States at the Ports, to their delivery to the end consumers. The Project's Traffic Impact Analysis (TIA), evaluates Project-related traffic impacts and specifies the mitigation measures that would be imposed to ensure that roadway and intersection improvements needed to accommodate Project traffic volumes are implemented concurrent with proposed development. Project trucks would be required to travel on designated truck routes in the City of San Bernardino to ultimately reach the state highway system to facilitative goods movement throughout the region.
G6	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	No inconsistency identified. The air quality impact report (AQIA) prepared for the Project identifies mitigation measures to reduce, to the extent feasible, the Project's air quality impacts. Additionally, and as discussed in Section 1.5, *City of El Monte Mitigation Measures*, the Project would incorporate measures related to building design, landscaping, and energy systems to promote the efficient use of energy. Additionally, there are no components of the proposed Project that would conflict with the City's active transportation network, and the Project would facilitate pedestrian mobility in the area with the provision of meandering sidewalks along the Project's frontages with Lower Azusa Road and Shirley Avenue.
G7	Actively encourage and create incentives for energy efficiency, where possible.	No inconsistency identified. This policy provides guidance to City staff to establish local incentive programs to encourage and promote energy efficient development. As discussed in Section 1.5, *City of El Monte Mitigation Measures*, the Project would incorporate various measures related to building design, landscaping, and energy systems to promote the efficient use of energy.

3.8 PROJECT CONSISTENCY WITH AB 32

Table 3-4 below, presents the 39 Recommended Actions (qualitative measures) identified to date by CARB in its Climate Change Proposed Scoping Plan. Of the 39 measures identified, those that would be considered to be applicable to the Project would primarily be those actions related to transportation, electricity and natural gas use, green building design and industrial uses. Consistency of the Project with these measures is evaluated by each source-type measure below. Table 3-4 identifies which CARB Recommended Actions apply to the Project, and of those, whether the Project is consistent therewith. A discussion of how the Project is consistent with each applicable CARB Recommended Action is set forth after Table 3-4.

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

Transportation

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

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

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

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

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

TABLE 3-4: RECOMMENDED ACTIONS FOR CLIMATE CHANGED PROPOSED SCOPING PLAN

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

SOURCE: CARB, 2008.

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

Action T-4 is concerned with vehicle efficiency measures. The California Integrated Waste Management Board (CIWMB) with various partners continues to conduct a public awareness campaign to promote sustainable tire practices. CARB is pursuing a regulation to ensure that tires are properly inflated when vehicles are serviced. In addition, CEC in consultation with CIWMB is developing an efficient tire program focusing first on data gathering and outreach, then on potential adoption of minimum fuel-efficient tire standards, and lastly on the development of consumer information requirements for replacing tires. CARB is also pursuing ways to reduce engine load via lower friction oil and reducing the need for air conditioner use. ARB is actively engaged in the regulatory development process for the tire inflation component of this measure.

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

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

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

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

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

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

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

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

Electricity and Natural Gas

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

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

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

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

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

Action E-4 strives to promote solar generated electricity.

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

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

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

Water Use

Implementation of all but two of the Recommended Actions related to water use are not within the purview of the proposed Project. The two measures that apply are measures W-1 (Water Use Efficiency) and W-3 (Water System Energy Efficiency). However, since the proposed Project would not exceed the audit threshold of 25,000 MT CO_2 (35) from on-site combustion and related activities, the proposed Project is consistent with and would not obstruct the recommended actions.

Industrial Use

All but one of the Recommended Actions related to industrial use are specific to oil and gas extraction, refining and transmission and are not applicable to the proposed Project. The one other Action I-1 targets large emitters of GHGs (in excess of 0.5 million metric tons (MMT)/year of CO_2E (equivalent)) for auditing[5] (36). Because the proposed Project would not exceed the audit threshold, as set forth in Section 3.0, the proposed Project is consistent with and would not obstruct the recommended actions.

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

3.9 PROJECT CONSISTENCY WITH SB 32

Consistency with SB 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 (25) (26).

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. (23) (24).

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. Furthermore, the Project would reduce emissions by more than 15% as compared to the 2011 BAU scenario evaluated in the General Plan EIR. As such, the Project would be consistent with SB 32.

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4 FINDINGS & CONCLUSIONS

GHG Impact 1: The Project would not generate direct or indirect greenhouse gas emission that would result in a significant impact on the environment.

The overall greenhouse gas (GHG) impacts of the proposed Project would generate 15% fewer emissions as compared to the land use assumptions made in the General Plan EIR and therefore, no new significant and unavoidable impacts would occur.

To evaluate GHG emissions impact significance, GHG emissions that would be generated pursuant to development of the Project are compared with a GHG of alternative industrial uses. This comparison indicates whether GHG emissions generated by development of the Project would likely be consistent with the City of El Monte General Plan and Zoning Code EIR emissions reductions measures and GHG emissions reductions targets. In summary, if the Project demonstrates a 15% reduction in GHG emissions as compared to the land use assumptions made in the General Plan EIR, the Project would be considered to have a less than significant impact and will not result or cause additional impacts on the environment.

As shown on Table 4-1, the Project will result in approximately 3,860.58 MTCO2e per year from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 14,913.54 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 such, the Project has the potential to generate a total of approximately 18,774.12 MTCO2e per year. As shown on Table 4-2, the proposed Project is anticipated to produce GHG emissions that are less than expected emissions as evaluated in the City's General Plan EIR. The proposed Project's emissions would be 18,774.12 $MTCO_2e$ per year and the EIR's existing mix use land use during 2011 would be 52,454.40 $MTCO_2e$ per year. This yields a reduction of approximately 64.21% which satisfies the City's BAU target of a 15% reduction

TABLE 4-1: PROJECT GHG EMISSIONS

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	174.42	0.02	0.00	100.04
Area	0.03	0.00	0.00	0.03
Energy	1,592.42	0.06	0.01	1,598.25
Mobile Sources (Passenger Cars)	2,079.32	0.04	0.00	2,080.42
Mobile Sources (Trucks)	12,817.53	0.62	0.00	12,833.12
Waste	234.72	13.93	0.00	583.98
Water Usage	1,275.82	9.36	0.23	1,578.28
Total CO_2E (Project - All Sources)	**18,774.12**			

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

TABLE 4-2: PROJECT VS 2011 BAU GHG EMISSIONS

Emission Source	Total CO2e Emissions (Metric Tons Per Year)	
	Project	**2011 BAU**
Annual construction-related emissions amortized over 30 years	100.04	100.04
Area	0.03	0.03
Energy	1,598.25	5,534.31
Mobile Sources (Passenger Cars)	2,080.42	13,304.17
Mobile Sources (Trucks)	12,833.12	31,239.50
Waste	583.98	721.98
Water Usage	1,578.28	1,554.37
Total CO_2E (All Sources)	**18,774.12**	**52,454.40**
Percent Difference	**64.21%**	
Project Minimum Improvement	**15%**	
Meets Requirement?	**YES**	

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.

As indicated in Table 3-3, the Project would be consistent with, or otherwise would not conflict with, the SCAG 2016-2040 RTP/SCS Strategy goals. As indicated in Table 3-4, the Project would be consistent with all of the CARB Scoping Plan GHG emission reduction measures. Moreover, the Project would not interfere with the City's or State's ability to achieve the GHG reduction targets established by SB 32. Therefore, the Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases

5 REFERENCES

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6 CERTIFICATION

The contents of this greenhouse gas study report represent an accurate depiction of the greenhouse gas impacts associated with the proposed Goodman Logistics Center. 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

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

GLC Warehouse Construction (Unmitigated)

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,235.34	1000sqft	28.36	1,235,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
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

GLC Warehouse Construction (Unmitigated) - South Coast AQMD Air District, Annual

Project Characteristics -

Land Use -

Construction Phase - Construction schedule adjusted as per Client. Paving and Architectural Coating activities to occur simultaneous with Building Construction.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Demolition -

Grading -

Vehicle Trips - Construction Run Only.

Energy Use - Construction Run Only.

Water And Wastewater - Construction Run Only.

Solid Waste - Construction Run Only.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	120.00
tblConstructionPhase	NumDays	440.00	220.00
tblConstructionPhase	NumDays	35.00	70.00
tblEnergyUse	LightingElect	1.91	0.00
tblEnergyUse	NT24E	1.34	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.65	0.00
tblEnergyUse	T24NG	0.84	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	1,161.22	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	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	285,672,375.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3458	4.1984	1.9856	5.3300e-003	0.8853	0.1679	1.0531	0.2223	0.1558	0.3781	0.0000	496.4754	496.4754	0.0997	0.0000	498.9678
2019	4.3979	8.3842	5.9167	0.0185	0.9781	0.2731	1.2512	0.2781	0.2550	0.5331	0.0000	1,698.1378	1,698.1378	0.2072	0.0000	1,703.3182
2020	2.2384	0.2257	0.2916	5.4000e-004	0.0176	0.0123	0.0299	4.6800e-003	0.0115	0.0162	0.0000	47.5008	47.5008	9.5600e-003	0.0000	47.7397
Maximum	**4.3979**	**8.3842**	**5.9167**	**0.0185**	**0.9781**	**0.2731**	**1.2512**	**0.2781**	**0.2550**	**0.5331**	**0.0000**	**1,698.1378**	**1,698.1378**	**0.2072**	**0.0000**	**1,703.3182**

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	0.3458	4.1984	1.9856	5.3300e-003	0.3780	0.1679	0.5459	0.0956	0.1558	0.2514	0.0000	496.4750	496.4750	0.0997	0.0000	498.9674
2019	4.3979	8.3842	5.9167	0.0185	0.8666	0.2731	1.1396	0.2392	0.2550	0.4942	0.0000	1,698.1372	1,698.1372	0.2072	0.0000	1,703.3175
2020	2.2384	0.2257	0.2916	5.4000e-004	0.0176	0.0123	0.0299	4.6800e-003	0.0115	0.0162	0.0000	47.5008	47.5008	9.5600e-003	0.0000	47.7397
Maximum	**4.3979**	**8.3842**	**5.9167**	**0.0185**	**0.8666**	**0.2731**	**1.1396**	**0.2392**	**0.2550**	**0.4942**	**0.0000**	**1,698.1372**	**1,698.1372**	**0.2072**	**0.0000**	**1,703.3175**

GLC Warehouse Construction (Unmitigated) - South Coast AQMD Air District, Annual

	ROG	NOx	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**	**32.90**	**0.00**	**26.51**	**32.77**	**0.00**	**17.85**	**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	**6-1-2018**	**8-31-2018**	1.7945	1.7945
2	**9-1-2018**	**11-30-2018**	1.9031	1.9031
3	**12-1-2018**	**2-28-2019**	2.3680	2.3680
4	**3-1-2019**	**5-31-2019**	2.3550	2.3550
5	**6-1-2019**	**8-31-2019**	2.3500	2.3500
6	**9-1-2019**	**11-30-2019**	4.1271	4.1271
7	**12-1-2019**	**2-29-2020**	4.8257	4.8257
		Highest	4.8257	4.8257

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

	ROG	NOx	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

GLC Warehouse Construction (Unmitigated) - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2018	11/15/2018	5	120	
2	Site Preparation	Site Preparation	11/16/2018	12/13/2018	5	20	
3	Grading	Grading	12/14/2018	2/14/2019	5	45	
4	Building Construction	Building Construction	2/15/2019	12/19/2019	5	220	
5	Architectural Coating	Architectural Coating	11/1/2019	2/6/2020	5	70	
6	Paving	Paving	12/20/2019	2/6/2020	5	35	

Acres of Grading (Site Preparation Phase): 40

Acres of Grading (Grading Phase): 157.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,853,010; Non-Residential Outdoor: 617,670; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

GLC Warehouse Construction (Unmitigated) - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Crawler Tractors	3	8.00	212	0.43
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	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	4,714.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	519.00	202.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	104.00	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					0.5101	0.0000	0.5101	0.0772	0.0000	0.0772	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2231	2.2994	1.3382	2.3300e-003		0.1163	0.1163		0.1083	0.1083	0.0000	210.7445	210.7445	0.0581	0.0000	212.1960
Total	**0.2231**	**2.2994**	**1.3382**	**2.3300e-003**	**0.5101**	**0.1163**	**0.6264**	**0.0772**	**0.1083**	**0.1855**	**0.0000**	**210.7445**	**210.7445**	**0.0581**	**0.0000**	**212.1960**

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	0.0207	0.7492	0.1394	1.8600e-003	0.0405	2.8100e-003	0.0433	0.0111	2.6900e-003	0.0138	0.0000	181.8208	181.8208	0.0128	0.0000	182.1404
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7800e-003	3.9100e-003	0.0420	1.0000e-004	9.8700e-003	8.0000e-005	9.9500e-003	2.6200e-003	7.0000e-005	2.7000e-003	0.0000	9.4725	9.4725	3.2000e-004	0.0000	9.4806
Total	**0.0255**	**0.7531**	**0.1814**	**1.9600e-003**	**0.0504**	**2.8900e-003**	**0.0533**	**0.0138**	**2.7600e-003**	**0.0165**	**0.0000**	**191.2933**	**191.2933**	**0.0131**	**0.0000**	**191.6210**

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					0.1989	0.0000	0.1989	0.0301	0.0000	0.0301	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2231	2.2994	1.3382	2.3300e-003		0.1163	0.1163		0.1083	0.1083	0.0000	210.7442	210.7442	0.0581	0.0000	212.1958
Total	**0.2231**	**2.2994**	**1.3382**	**2.3300e-003**	**0.1989**	**0.1163**	**0.3152**	**0.0301**	**0.1083**	**0.1384**	**0.0000**	**210.7442**	**210.7442**	**0.0581**	**0.0000**	**212.1958**

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	0.0207	0.7492	0.1394	1.8600e-003	0.0405	2.8100e-003	0.0433	0.0111	2.6900e-003	0.0138	0.0000	181.8208	181.8208	0.0128	0.0000	182.1404
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7800e-003	3.9100e-003	0.0420	1.0000e-004	9.8700e-003	8.0000e-005	9.9500e-003	2.6200e-003	7.0000e-005	2.7000e-003	0.0000	9.4725	9.4725	3.2000e-004	0.0000	9.4806
Total	**0.0255**	**0.7531**	**0.1814**	**1.9600e-003**	**0.0504**	**2.8900e-003**	**0.0533**	**0.0138**	**2.7600e-003**	**0.0165**	**0.0000**	**191.2933**	**191.2933**	**0.0131**	**0.0000**	**191.6210**

3.3 Site Preparation - 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					0.2019	0.0000	0.2019	0.1016	0.0000	0.1016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.7170	0.2376	5.7000e-004		0.0312	0.0312		0.0287	0.0287	0.0000	52.0916	52.0916	0.0162	0.0000	52.4970
Total	**0.0606**	**0.7170**	**0.2376**	**5.7000e-004**	**0.2019**	**0.0312**	**0.2331**	**0.1016**	**0.0287**	**0.1303**	**0.0000**	**52.0916**	**52.0916**	**0.0162**	**0.0000**	**52.4970**

3.3 Site Preparation - 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	9.6000e-004	7.8000e-004	8.4000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8945	1.8945	6.0000e-005	0.0000	1.8961
Total	**9.6000e-004**	**7.8000e-004**	**8.4000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8945**	**1.8945**	**6.0000e-005**	**0.0000**	**1.8961**

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					0.0787	0.0000	0.0787	0.0396	0.0000	0.0396	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0606	0.7170	0.2376	5.7000e-004		0.0312	0.0312		0.0287	0.0287	0.0000	52.0915	52.0915	0.0162	0.0000	52.4969
Total	**0.0606**	**0.7170**	**0.2376**	**5.7000e-004**	**0.0787**	**0.0312**	**0.1099**	**0.0396**	**0.0287**	**0.0683**	**0.0000**	**52.0915**	**52.0915**	**0.0162**	**0.0000**	**52.4969**

3.3 Site Preparation - 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	9.6000e-004	7.8000e-004	8.4000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8945	1.8945	6.0000e-005	0.0000	1.8961
Total	**9.6000e-004**	**7.8000e-004**	**8.4000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8945**	**1.8945**	**6.0000e-005**	**0.0000**	**1.8961**

3.4 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					0.1197	0.0000	0.1197	0.0289	0.0000	0.0289	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0350	0.4276	0.2144	4.3000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.1886	39.1886	0.0122	0.0000	39.4936
Total	**0.0350**	**0.4276**	**0.2144**	**4.3000e-004**	**0.1197**	**0.0174**	**0.1371**	**0.0289**	**0.0160**	**0.0449**	**0.0000**	**39.1886**	**39.1886**	**0.0122**	**0.0000**	**39.4936**

3.4 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	0.0000	0.0000	0.0000	0.0000	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	6.4000e-004	5.2000e-004	5.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2630	1.2630	4.0000e-005	0.0000	1.2641
Total	**6.4000e-004**	**5.2000e-004**	**5.6000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.2630**	**1.2630**	**4.0000e-005**	**0.0000**	**1.2641**

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					0.0467	0.0000	0.0467	0.0113	0.0000	0.0113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0350	0.4276	0.2144	4.3000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.1886	39.1886	0.0122	0.0000	39.4936
Total	**0.0350**	**0.4276**	**0.2144**	**4.3000e-004**	**0.0467**	**0.0174**	**0.0641**	**0.0113**	**0.0160**	**0.0273**	**0.0000**	**39.1886**	**39.1886**	**0.0122**	**0.0000**	**39.4936**

3.4 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	0.0000	0.0000	0.0000	0.0000	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	6.4000e-004	5.2000e-004	5.6000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2630	1.2630	4.0000e-005	0.0000	1.2641
Total	**6.4000e-004**	**5.2000e-004**	**5.6000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.2630**	**1.2630**	**4.0000e-005**	**0.0000**	**1.2641**

3.4 Grading - 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					
Fugitive Dust					0.1829	0.0000	0.1829	0.0636	0.0000	0.0636	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0907	1.0863	0.5599	1.1800e-003		0.0441	0.0441		0.0406	0.0406	0.0000	105.9699	105.9699	0.0335	0.0000	106.8081
Total	**0.0907**	**1.0863**	**0.5599**	**1.1800e-003**	**0.1829**	**0.0441**	**0.2270**	**0.0636**	**0.0406**	**0.1042**	**0.0000**	**105.9699**	**105.9699**	**0.0335**	**0.0000**	**106.8081**

3.4 Grading - 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	1.5900e-003	1.2700e-003	0.0138	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.3637	3.3637	1.1000e-004	0.0000	3.3663
Total	**1.5900e-003**	**1.2700e-003**	**0.0138**	**4.0000e-005**	**3.6200e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**3.0000e-005**	**9.9000e-004**	**0.0000**	**3.3637**	**3.3637**	**1.1000e-004**	**0.0000**	**3.3663**

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					0.0713	0.0000	0.0713	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0907	1.0863	0.5599	1.1800e-003		0.0441	0.0441		0.0406	0.0406	0.0000	105.9697	105.9697	0.0335	0.0000	106.8079
Total	**0.0907**	**1.0863**	**0.5599**	**1.1800e-003**	**0.0713**	**0.0441**	**0.1154**	**0.0248**	**0.0406**	**0.0654**	**0.0000**	**105.9697**	**105.9697**	**0.0335**	**0.0000**	**106.8079**

3.4 Grading - 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	1.5900e-003	1.2700e-003	0.0138	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.3637	3.3637	1.1000e-004	0.0000	3.3663
Total	**1.5900e-003**	**1.2700e-003**	**0.0138**	**4.0000e-005**	**3.6200e-003**	**3.0000e-005**	**3.6500e-003**	**9.6000e-004**	**3.0000e-005**	**9.9000e-004**	**0.0000**	**3.3637**	**3.3637**	**1.1000e-004**	**0.0000**	**3.3663**

3.5 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	0.4008	4.3644	2.1059	4.7300e-003		0.1998	0.1998		0.1867	0.1867	0.0000	417.8753	417.8753	0.1134	0.0000	420.7100
Total	**0.4008**	**4.3644**	**2.1059**	**4.7300e-003**		**0.1998**	**0.1998**		**0.1867**	**0.1867**	**0.0000**	**417.8753**	**417.8753**	**0.1134**	**0.0000**	**420.7100**

3.5 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	0.0873	2.5909	0.6497	5.6900e-003	0.1401	0.0170	0.1570	0.0404	0.0162	0.0566	0.0000	550.1028	550.1028	0.0381	0.0000	551.0544
Worker	0.2757	0.2190	2.3803	6.4400e-003	0.6264	4.9700e-003	0.6313	0.1663	4.5800e-003	0.1709	0.0000	581.9139	581.9139	0.0182	0.0000	582.3685
Total	**0.3630**	**2.8099**	**3.0300**	**0.0121**	**0.7664**	**0.0219**	**0.7883**	**0.2068**	**0.0208**	**0.2276**	**0.0000**	**1,132.0167**	**1,132.0167**	**0.0563**	**0.0000**	**1,133.4230**

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	0.4008	4.3644	2.1059	4.7300e-003		0.1998	0.1998		0.1867	0.1867	0.0000	417.8748	417.8748	0.1134	0.0000	420.7095
Total	**0.4008**	**4.3644**	**2.1059**	**4.7300e-003**		**0.1998**	**0.1998**		**0.1867**	**0.1867**	**0.0000**	**417.8748**	**417.8748**	**0.1134**	**0.0000**	**420.7095**

3.5 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	0.0873	2.5909	0.6497	5.6900e-003	0.1401	0.0170	0.1570	0.0404	0.0162	0.0566	0.0000	550.1028	550.1028	0.0381	0.0000	551.0544
Worker	0.2757	0.2190	2.3803	6.4400e-003	0.6264	4.9700e-003	0.6313	0.1663	4.5800e-003	0.1709	0.0000	581.9139	581.9139	0.0182	0.0000	582.3685
Total	**0.3630**	**2.8099**	**3.0300**	**0.0121**	**0.7664**	**0.0219**	**0.7883**	**0.2068**	**0.0208**	**0.2276**	**0.0000**	**1,132.0167**	**1,132.0167**	**0.0563**	**0.0000**	**1,133.4230**

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	3.5173					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6400e-003	0.0526	0.0528	9.0000e-005		3.6900e-003	3.6900e-003		3.6900e-003	3.6900e-003	0.0000	7.3193	7.3193	6.2000e-004	0.0000	7.3348
Total	**3.5249**	**0.0526**	**0.0528**	**9.0000e-005**		**3.6900e-003**	**3.6900e-003**		**3.6900e-003**	**3.6900e-003**	**0.0000**	**7.3193**	**7.3193**	**6.2000e-004**	**0.0000**	**7.3348**

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	0.0108	8.5800e-003	0.0932	2.5000e-004	0.0245	1.9000e-004	0.0247	6.5200e-003	1.8000e-004	6.6900e-003	0.0000	22.7914	22.7914	7.1000e-004	0.0000	22.8092
Total	**0.0108**	**8.5800e-003**	**0.0932**	**2.5000e-004**	**0.0245**	**1.9000e-004**	**0.0247**	**6.5200e-003**	**1.8000e-004**	**6.6900e-003**	**0.0000**	**22.7914**	**22.7914**	**7.1000e-004**	**0.0000**	**22.8092**

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	3.5173					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6400e-003	0.0526	0.0528	9.0000e-005		3.6900e-003	3.6900e-003		3.6900e-003	3.6900e-003	0.0000	7.3193	7.3193	6.2000e-004	0.0000	7.3348
Total	**3.5249**	**0.0526**	**0.0528**	**9.0000e-005**		**3.6900e-003**	**3.6900e-003**		**3.6900e-003**	**3.6900e-003**	**0.0000**	**7.3193**	**7.3193**	**6.2000e-004**	**0.0000**	**7.3348**

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	0.0108	8.5800e-003	0.0932	2.5000e-004	0.0245	1.9000e-004	0.0247	6.5200e-003	1.8000e-004	6.6900e-003	0.0000	22.7914	22.7914	7.1000e-004	0.0000	22.8092
Total	**0.0108**	**8.5800e-003**	**0.0932**	**2.5000e-004**	**0.0245**	**1.9000e-004**	**0.0247**	**6.5200e-003**	**1.8000e-004**	**6.6900e-003**	**0.0000**	**22.7914**	**22.7914**	**7.1000e-004**	**0.0000**	**22.8092**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2085					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3600e-003	0.0303	0.0330	5.0000e-005		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	4.5959	4.5959	3.6000e-004	0.0000	4.6048
Total	**2.2129**	**0.0303**	**0.0330**	**5.0000e-005**		**2.0000e-003**	**2.0000e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**4.5959**	**4.5959**	**3.6000e-004**	**0.0000**	**4.6048**

3.6 Architectural Coating - 2020

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	6.2700e-003	4.8100e-003	0.0532	1.5000e-004	0.0154	1.2000e-004	0.0155	4.0900e-003	1.1000e-004	4.2000e-003	0.0000	13.8668	13.8668	4.0000e-004	0.0000	13.8768
Total	**6.2700e-003**	**4.8100e-003**	**0.0532**	**1.5000e-004**	**0.0154**	**1.2000e-004**	**0.0155**	**4.0900e-003**	**1.1000e-004**	**4.2000e-003**	**0.0000**	**13.8668**	**13.8668**	**4.0000e-004**	**0.0000**	**13.8768**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2085					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3600e-003	0.0303	0.0330	5.0000e-005		2.0000e-003	2.0000e-003		2.0000e-003	2.0000e-003	0.0000	4.5959	4.5959	3.6000e-004	0.0000	4.6048
Total	**2.2129**	**0.0303**	**0.0330**	**5.0000e-005**		**2.0000e-003**	**2.0000e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**4.5959**	**4.5959**	**3.6000e-004**	**0.0000**	**4.6048**

3.6 Architectural Coating - 2020

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	6.2700e-003	4.8100e-003	0.0532	1.5000e-004	0.0154	1.2000e-004	0.0155	4.0900e-003	1.1000e-004	4.2000e-003	0.0000	13.8668	13.8668	4.0000e-004	0.0000	13.8768
Total	**6.2700e-003**	**4.8100e-003**	**0.0532**	**1.5000e-004**	**0.0154**	**1.2000e-004**	**0.0155**	**4.0900e-003**	**1.1000e-004**	**4.2000e-003**	**0.0000**	**13.8668**	**13.8668**	**4.0000e-004**	**0.0000**	**13.8768**

3.7 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	5.8200e-003	0.0610	0.0587	9.0000e-005		3.3000e-003	3.3000e-003		3.0300e-003	3.0300e-003	0.0000	8.1901	8.1901	2.5900e-003	0.0000	8.2549
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8200e-003**	**0.0610**	**0.0587**	**9.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0300e-003**	**3.0300e-003**	**0.0000**	**8.1901**	**8.1901**	**2.5900e-003**	**0.0000**	**8.2549**

3.7 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	2.9000e-004	2.3000e-004	2.5000e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.6116	0.6116	2.0000e-005	0.0000	0.6121
Total	**2.9000e-004**	**2.3000e-004**	**2.5000e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6116**	**0.6116**	**2.0000e-005**	**0.0000**	**0.6121**

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	5.8200e-003	0.0610	0.0587	9.0000e-005		3.3000e-003	3.3000e-003		3.0300e-003	3.0300e-003	0.0000	8.1901	8.1901	2.5900e-003	0.0000	8.2548
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8200e-003**	**0.0610**	**0.0587**	**9.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0300e-003**	**3.0300e-003**	**0.0000**	**8.1901**	**8.1901**	**2.5900e-003**	**0.0000**	**8.2548**

3.7 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	2.9000e-004	2.3000e-004	2.5000e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.6116	0.6116	2.0000e-005	0.0000	0.6121
Total	**2.9000e-004**	**2.3000e-004**	**2.5000e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6116**	**0.6116**	**2.0000e-005**	**0.0000**	**0.6121**

3.7 Paving - 2020

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	0.0183	0.1899	0.1978	3.1000e-004		0.0102	0.0102		9.3500e-003	9.3500e-003	0.0000	27.0381	27.0381	8.7400e-003	0.0000	27.2567
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1899**	**0.1978**	**3.1000e-004**		**0.0102**	**0.0102**		**9.3500e-003**	**9.3500e-003**	**0.0000**	**27.0381**	**27.0381**	**8.7400e-003**	**0.0000**	**27.2567**

3.7 Paving - 2020

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	9.0000e-004	6.9000e-004	7.6700e-003	2.0000e-005	2.2200e-003	2.0000e-005	2.2400e-003	5.9000e-004	2.0000e-005	6.1000e-004	0.0000	2.0000	2.0000	6.0000e-005	0.0000	2.0015
Total	**9.0000e-004**	**6.9000e-004**	**7.6700e-003**	**2.0000e-005**	**2.2200e-003**	**2.0000e-005**	**2.2400e-003**	**5.9000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**2.0000**	**2.0000**	**6.0000e-005**	**0.0000**	**2.0015**

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	0.0183	0.1899	0.1978	3.1000e-004		0.0102	0.0102		9.3500e-003	9.3500e-003	0.0000	27.0381	27.0381	8.7400e-003	0.0000	27.2567
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1899**	**0.1978**	**3.1000e-004**		**0.0102**	**0.0102**		**9.3500e-003**	**9.3500e-003**	**0.0000**	**27.0381**	**27.0381**	**8.7400e-003**	**0.0000**	**27.2567**

3.7 Paving - 2020

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	9.0000e-004	6.9000e-004	7.6700e-003	2.0000e-005	2.2200e-003	2.0000e-005	2.2400e-003	5.9000e-004	2.0000e-005	6.1000e-004	0.0000	2.0000	2.0000	6.0000e-005	0.0000	2.0015
Total	**9.0000e-004**	**6.9000e-004**	**7.6700e-003**	**2.0000e-005**	**2.2200e-003**	**2.0000e-005**	**2.2400e-003**	**5.9000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**2.0000**	**2.0000**	**6.0000e-005**	**0.0000**	**2.0015**

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
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
Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	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	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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					
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					
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			
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			
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	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Unmitigated	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

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

Mitigated

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

GLC Warehouse Operations (Passenger Cars)

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,235.34	1000sqft	28.36	1,235,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
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 -

Construction Phase - Passenger Car Run Only.

Off-road Equipment - Passenger Car Run Only.

Trips and VMT - Passenger Car Run Only.

Vehicle Trips - Passenger Car Run Only.

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix - Passenger Car Run Only.

GLC Warehouse Operations (Passenger Cars) - South Coast AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	PhaseEndDate	3/14/2018	2/1/2018
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	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

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	0.0000	0.0000	0.0000	0.0000	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					
2018	0.0000	0.0000	0.0000	0.0000	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**

GLC Warehouse Operations (Passenger Cars) - South Coast AQMD Air District, Annual

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	1,592.4151	1,592.4151	0.0645	0.0142	1,598.2477
Mobile	0.2753	0.5136	6.2058	0.0230	2.6801	0.0177	2.6978	0.7114	0.0163	0.7278	0.0000	2,079.3170	2,079.3170	0.0443	0.0000	2,080.4249
Waste						0.0000	0.0000		0.0000	0.0000	235.7172	0.0000	235.7172	13.9305	0.0000	583.9793
Water						0.0000	0.0000		0.0000	0.0000	90.6307	1,185.1889	1,275.8195	9.3576	0.2299	1,578.2751
Total	**5.3191**	**0.5665**	**6.2659**	**0.0233**	**2.6801**	**0.0218**	**2.7018**	**0.7114**	**0.0204**	**0.7318**	**326.3478**	**4,856.9516**	**5,183.2994**	**23.3969**	**0.2441**	**5,840.9596**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	1,592.4151	1,592.4151	0.0645	0.0142	1,598.2477
Mobile	0.2753	0.5136	6.2058	0.0230	2.6801	0.0177	2.6978	0.7114	0.0163	0.7278	0.0000	2,079.3170	2,079.3170	0.0443	0.0000	2,080.4249
Waste						0.0000	0.0000		0.0000	0.0000	235.7172	0.0000	235.7172	13.9305	0.0000	583.9793
Water						0.0000	0.0000		0.0000	0.0000	90.6307	1,185.1889	1,275.8195	9.3576	0.2299	1,578.2751
Total	**5.3191**	**0.5665**	**6.2659**	**0.0233**	**2.6801**	**0.0218**	**2.7018**	**0.7114**	**0.0204**	**0.7318**	**326.3478**	**4,856.9516**	**5,183.2994**	**23.3969**	**0.2441**	**5,840.9596**

	ROG	NOx	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	2/1/2018	2/1/2018	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
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

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

3.1 Mitigation Measures Construction

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					
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 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.2753	0.5136	6.2058	0.0230	2.6801	0.0177	2.6978	0.7114	0.0163	0.7278	0.0000	2,079.3170	2,079.3170	0.0443	0.0000	2,080.4249
Unmitigated	0.2753	0.5136	6.2058	0.0230	2.6801	0.0177	2.6978	0.7114	0.0163	0.7278	0.0000	2,079.3170	2,079.3170	0.0443	0.0000	2,080.4249

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	1,189.63	1,189.63	1189.63	7,188,235	7,188,235
Total	1,189.63	1,189.63	1,189.63	7,188,235	7,188,235

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	1,535.0626	1,535.0626	0.0634	0.0131	1,540.5543
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,535.0626	1,535.0626	0.0634	0.0131	1,540.5543
NaturalGas Mitigated	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
NaturalGas Unmitigated	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934

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	1.07475e+006	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
Total		**5.8000e-003**	**0.0527**	**0.0443**	**3.2000e-004**		**4.0000e-003**	**4.0000e-003**		**4.0000e-003**	**4.0000e-003**	**0.0000**	**57.3525**	**57.3525**	**1.1000e-003**	**1.0500e-003**	**57.6934**

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	1.07475e+006	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
Total		**5.8000e-003**	**0.0527**	**0.0443**	**3.2000e-004**		**4.0000e-003**	**4.0000e-003**		**4.0000e-003**	**4.0000e-003**	**0.0000**	**57.3525**	**57.3525**	**1.1000e-003**	**1.0500e-003**	**57.6934**

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	4.81783e+006	1,535.0626	0.0634	0.0131	1,540.5543
Total		**1,535.0626**	**0.0634**	**0.0131**	**1,540.5543**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	4.81783e+006	1,535.0626	0.0634	0.0131	1,540.5543
Total		**1,535.0626**	**0.0634**	**0.0131**	**1,540.5543**

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	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Unmitigated	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,275.8195	9.3576	0.2299	1,578.2751
Unmitigated	1,275.8195	9.3576	0.2299	1,578.2751

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	285.672 / 0	1,275.8195	9.3576	0.2299	1,578.2751
Total		**1,275.8195**	**9.3576**	**0.2299**	**1,578.2751**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	285.672 / 0	1,275.8195	9.3576	0.2299	1,578.2751
Total		**1,275.8195**	**9.3576**	**0.2299**	**1,578.2751**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	235.7172	13.9305	0.0000	583.9793
Unmitigated	235.7172	13.9305	0.0000	583.9793

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1161.22	235.7172	13.9305	0.0000	583.9793
Total		**235.7172**	**13.9305**	**0.0000**	**583.9793**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1161.22	235.7172	13.9305	0.0000	583.9793
Total		**235.7172**	**13.9305**	**0.0000**	**583.9793**

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

GLC Warehouse Operations (Trucks)

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,235.34	1000sqft	28.36	1,235,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
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 -

Construction Phase - Truck Run Only.

Off-road Equipment - Truck Run Only.

Trips and VMT -

Vehicle Trips - Truck Run Only.

Construction Off-road Equipment Mitigation -

Fleet Mix - Truck Run Only.

GLC Warehouse Operations (Trucks) - South Coast AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblFleetMix	HHD	0.03	0.62
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.21
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	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	45.89
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

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	0.0000	0.0000	0.0000	0.0000	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					
2018	0.0000	0.0000	0.0000	0.0000	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**

GLC Warehouse Operations (Trucks) - South Coast AQMD Air District, Annual

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	1,592.4151	1,592.4151	0.0645	0.0142	1,598.2477
Mobile	1.2940	38.3296	10.0848	0.1321	3.9518	0.2328	4.1846	1.1132	0.2227	1.3358	0.0000	12,817.5301	12,817.5301	0.6234	0.0000	12,833.1157
Waste						0.0000	0.0000		0.0000	0.0000	235.7172	0.0000	235.7172	13.9305	0.0000	583.9793
Water						0.0000	0.0000		0.0000	0.0000	90.6307	1,185.1889	1,275.8195	9.3576	0.2299	1,578.2751
Total	**6.3377**	**38.3824**	**10.1449**	**0.1324**	**3.9518**	**0.2369**	**4.1887**	**1.1132**	**0.2267**	**1.3399**	**326.3478**	**15,595.1648**	**15,921.5126**	**23.9760**	**0.2441**	**16,593.6505**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Energy	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	1,592.4151	1,592.4151	0.0645	0.0142	1,598.2477
Mobile	1.2940	38.3296	10.0848	0.1321	3.9518	0.2328	4.1846	1.1132	0.2227	1.3358	0.0000	12,817.5301	12,817.5301	0.6234	0.0000	12,833.1157
Waste						0.0000	0.0000		0.0000	0.0000	235.7172	0.0000	235.7172	13.9305	0.0000	583.9793
Water						0.0000	0.0000		0.0000	0.0000	90.6307	1,185.1889	1,275.8195	9.3576	0.2299	1,578.2751
Total	**6.3377**	**38.3824**	**10.1449**	**0.1324**	**3.9518**	**0.2369**	**4.1887**	**1.1132**	**0.2267**	**1.3399**	**326.3478**	**15,595.1648**	**15,921.5126**	**23.9760**	**0.2441**	**16,593.6505**

	ROG	NOx	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	2/1/2018	2/1/2018	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
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	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					
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 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	1.2940	38.3296	10.0848	0.1321	3.9518	0.2328	4.1846	1.1132	0.2227	1.3358	0.0000	12,817.5301	12,817.5301	0.6234	0.0000	12,833.1157
Unmitigated	1.2940	38.3296	10.0848	0.1321	3.9518	0.2328	4.1846	1.1132	0.2227	1.3358	0.0000	12,817.5301	12,817.5301	0.6234	0.0000	12,833.1157

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	539.84	539.84	539.84	9,017,526	9,017,526
Total	539.84	539.84	539.84	9,017,526	9,017,526

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	45.89	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	0.170000	0.000000	0.210000	0.620000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,535.0626	1,535.0626	0.0634	0.0131	1,540.5543
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,535.0626	1,535.0626	0.0634	0.0131	1,540.5543
NaturalGas Mitigated	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
NaturalGas Unmitigated	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934

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	1.07475e+006	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
Total		**5.8000e-003**	**0.0527**	**0.0443**	**3.2000e-004**		**4.0000e-003**	**4.0000e-003**		**4.0000e-003**	**4.0000e-003**	**0.0000**	**57.3525**	**57.3525**	**1.1000e-003**	**1.0500e-003**	**57.6934**

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	1.07475e+006	5.8000e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003	0.0000	57.3525	57.3525	1.1000e-003	1.0500e-003	57.6934
Total		**5.8000e-003**	**0.0527**	**0.0443**	**3.2000e-004**		**4.0000e-003**	**4.0000e-003**		**4.0000e-003**	**4.0000e-003**	**0.0000**	**57.3525**	**57.3525**	**1.1000e-003**	**1.0500e-003**	**57.6934**

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	4.81783e+006	1,535.0626	0.0634	0.0131	1,540.5543
Total		**1,535.0626**	**0.0634**	**0.0131**	**1,540.5543**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	4.81783e+006	1,535.0626	0.0634	0.0131	1,540.5543
Total		**1,535.0626**	**0.0634**	**0.0131**	**1,540.5543**

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	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Unmitigated	5.0380	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

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	0.5726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.4639					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0159	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0307	0.0307	8.0000e-005	0.0000	0.0327
Total	**5.0380**	**1.5000e-004**	**0.0159**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0307**	**0.0307**	**8.0000e-005**	**0.0000**	**0.0327**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,275.8195	9.3576	0.2299	1,578.2751
Unmitigated	1,275.8195	9.3576	0.2299	1,578.2751

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	285.672 / 0	1,275.8195	9.3576	0.2299	1,578.2751
Total		**1,275.8195**	**9.3576**	**0.2299**	**1,578.2751**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	285.672 / 0	1,275.8195	9.3576	0.2299	1,578.2751
Total		**1,275.8195**	**9.3576**	**0.2299**	**1,578.2751**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	235.7172	13.9305	0.0000	583.9793
Unmitigated	235.7172	13.9305	0.0000	583.9793

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1161.22	235.7172	13.9305	0.0000	583.9793
Total		**235.7172**	**13.9305**	**0.0000**	**583.9793**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	1161.22	235.7172	13.9305	0.0000	583.9793
Total		**235.7172**	**13.9305**	**0.0000**	**583.9793**

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

GLC Warehouse Other Industrial Uses (Operations - Passenger Cars)

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	364.99	1000sqft	8.38	364,989.00	0
Industrial Park	486.65	1000sqft	11.17	486,652.00	0
Unrefrigerated Warehouse-No Rail	243.33	1000sqft	5.59	243,326.00	0
Manufacturing	121.66	1000sqft	2.79	121,663.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2011
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

GLC Warehouse Other Industrial Uses (Operations - Passenger Cars) - South Coast AQMD Air District, Annual

Project Characteristics -

Land Use -

Construction Phase - Other Land Uses Operations (Passenger Cars) Run Only.

Off-road Equipment - Other Land Uses Operations (Passenger Cars) Run Only.

Vehicle Trips - Other Land Uses Operations (Passenger Cars) Run Only.

Fleet Mix - Other Land Uses Operations (Passenger Cars) Run Only.

Energy Use -

Trips and VMT - Other Land Uses Operations (Passenger Cars) Run Only.

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	PhaseEndDate	2/11/2009	1/1/2009
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.52	1.00
tblFleetMix	LDA	0.52	1.00
tblFleetMix	LDA	0.52	1.00
tblFleetMix	LDA	0.52	1.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00

tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.8000e-003	0.00

tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblLandUse	LandUseSquareFeet	364,990.00	364,989.00
tblLandUse	LandUseSquareFeet	486,650.00	486,652.00
tblLandUse	LandUseSquareFeet	243,330.00	243,326.00
tblLandUse	LandUseSquareFeet	121,660.00	121,663.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	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	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	2.00	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	79.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	5.58
tblVehicleTrips	ST_TR	2.49	6.06
tblVehicleTrips	ST_TR	1.49	2.85
tblVehicleTrips	ST_TR	1.68	3.06
tblVehicleTrips	SU_TR	0.68	5.58
tblVehicleTrips	SU_TR	0.73	6.06
tblVehicleTrips	SU_TR	0.62	2.85
tblVehicleTrips	SU_TR	1.68	3.06
tblVehicleTrips	WD_TR	6.97	5.58
tblVehicleTrips	WD_TR	6.83	6.06
tblVehicleTrips	WD_TR	3.82	2.85
tblVehicleTrips	WD_TR	1.68	3.06

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					
2009	0.0000	0.0000	0.0000	0.0000	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					
2009	0.0000	0.0000	0.0000	0.0000	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	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Energy	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	5,512.5756	5,512.5756	0.2088	0.0554	5,534.3090
Mobile	5.1024	8.1169	90.9034	0.1477	13.6791	0.1463	13.8254	3.6312	0.1356	3.7668	0.0000	13,286.0474	13,286.0474	0.7248	0.0000	13,304.1669
Waste						0.0000	0.0000		0.0000	0.0000	291.4199	0.0000	291.4199	17.2224	0.0000	721.9805
Water						0.0000	0.0000		0.0000	0.0000	89.2580	1,167.2384	1,256.4964	9.2158	0.2264	1,554.3711
Total	**10.9962**	**8.8986**	**91.5768**	**0.1524**	**13.6791**	**0.2057**	**13.8848**	**3.6312**	**0.1950**	**3.8263**	**380.6779**	**19,965.8916**	**20,346.5696**	**27.3719**	**0.2819**	**21,114.8603**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Energy	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	5,512.5756	5,512.5756	0.2088	0.0554	5,534.3090
Mobile	5.1024	8.1169	90.9034	0.1477	13.6791	0.1463	13.8254	3.6312	0.1356	3.7668	0.0000	13,286.0474	13,286.0474	0.7248	0.0000	13,304.1669
Waste						0.0000	0.0000		0.0000	0.0000	291.4199	0.0000	291.4199	17.2224	0.0000	721.9805
Water						0.0000	0.0000		0.0000	0.0000	89.2580	1,167.2384	1,256.4964	9.2158	0.2264	1,554.3711
Total	**10.9962**	**8.8986**	**91.5768**	**0.1524**	**13.6791**	**0.2057**	**13.8848**	**3.6312**	**0.1950**	**3.8263**	**380.6779**	**19,965.8916**	**20,346.5696**	**27.3719**	**0.2819**	**21,114.8603**

	ROG	NOx	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	1/1/2009	1/1/2009	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
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

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

3.1 Mitigation Measures Construction

3.2 Demolition - 2009

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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 Demolition - 2009

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	5.1024	8.1169	90.9034	0.1477	13.6791	0.1463	13.8254	3.6312	0.1356	3.7668	0.0000	13,286.0474	13,286.0474	0.7248	0.0000	13,304.1669
Unmitigated	5.1024	8.1169	90.9034	0.1477	13.6791	0.1463	13.8254	3.6312	0.1356	3.7668	0.0000	13,286.0474	13,286.0474	0.7248	0.0000	13,304.1669

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	2,035.18	2,035.18	2035.18	12,297,397	12,297,397
Industrial Park	2,946.67	2,946.67	2946.67	17,804,933	17,804,933
Manufacturing	346.49	346.49	346.49	2,093,617	2,093,617
Unrefrigerated Warehouse-No Rail	743.62	743.62	743.62	4,493,228	4,493,228
Total	6,071.95	6,071.95	6,071.95	36,689,176	36,689,176

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	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
Industrial Park	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
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: Y

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	4,661.8114	4,661.8114	0.1925	0.0398	4,678.4891
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,661.8114	4,661.8114	0.1925	0.0398	4,678.4891
NaturalGas Mitigated	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	850.7642	850.7642	0.0163	0.0156	855.8199
NaturalGas Unmitigated	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	850.7642	850.7642	0.0163	0.0156	855.8199

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	7.22678e+006	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.6486	385.6486	7.3900e-003	7.0700e-003	387.9403
Industrial Park	6.05395e+006	0.0326	0.2968	0.2493	1.7800e-003		0.0226	0.0226		0.0226	0.0226	0.0000	323.0619	323.0619	6.1900e-003	5.9200e-003	324.9817
Manufacturing	2.40893e+006	0.0130	0.1181	0.0992	7.1000e-004		8.9700e-003	8.9700e-003		8.9700e-003	8.9700e-003	0.0000	128.5495	128.5495	2.4600e-003	2.3600e-003	129.3135
Unrefrigerated Warehouse-No Rail	253059	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.5042	13.5042	2.6000e-004	2.5000e-004	13.5844
Total		**0.0860**	**0.7815**	**0.6565**	**4.6900e-003**		**0.0594**	**0.0594**		**0.0594**	**0.0594**	**0.0000**	**850.7642**	**850.7642**	**0.0163**	**0.0156**	**855.8199**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	7.22678e+006	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.6486	385.6486	7.3900e-003	7.0700e-003	387.9403
Industrial Park	6.05395e+006	0.0326	0.2968	0.2493	1.7800e-003		0.0226	0.0226		0.0226	0.0226	0.0000	323.0619	323.0619	6.1900e-003	5.9200e-003	324.9817
Manufacturing	2.40893e+006	0.0130	0.1181	0.0992	7.1000e-004		8.9700e-003	8.9700e-003		8.9700e-003	8.9700e-003	0.0000	128.5495	128.5495	2.4600e-003	2.3600e-003	129.3135
Unrefrigerated Warehouse-No Rail	253059	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.5042	13.5042	2.6000e-004	2.5000e-004	13.5844
Total		**0.0860**	**0.7815**	**0.6565**	**4.6900e-003**		**0.0594**	**0.0594**		**0.0594**	**0.0594**	**0.0000**	**850.7642**	**850.7642**	**0.0163**	**0.0156**	**855.8199**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.57696e+006	1,458.3182	0.0602	0.0125	1,463.5354
Industrial Park	7.41658e+006	2,363.0802	0.0976	0.0202	2,371.5342
Manufacturing	1.52565e+006	486.1061	0.0201	4.1500e-003	487.8451
Unrefrigerated Warehouse-No Rail	1.112e+006	354.3070	0.0146	3.0300e-003	355.5745
Total		**4,661.8114**	**0.1925**	**0.0398**	**4,678.4891**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.57696e+006	1,458.3182	0.0602	0.0125	1,463.5354
Industrial Park	7.41658e+006	2,363.0802	0.0976	0.0202	2,371.5342
Manufacturing	1.52565e+006	486.1061	0.0201	4.1500e-003	487.8451
Unrefrigerated Warehouse-No Rail	1.112e+006	354.3070	0.0146	3.0300e-003	355.5745
Total		**4,661.8114**	**0.1925**	**0.0398**	**4,678.4891**

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	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Unmitigated	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327

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	1.4098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Total	**5.8079**	**1.7000e-004**	**0.0170**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0302**	**0.0302**	**1.0000e-004**	**0.0000**	**0.0327**

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	1.4098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Total	**5.8079**	**1.7000e-004**	**0.0170**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0302**	**0.0302**	**1.0000e-004**	**0.0000**	**0.0327**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,256.4964	9.2158	0.2264	1,554.3711
Unmitigated	1,256.4964	9.2158	0.2264	1,554.3711

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	84.4039 / 0	376.9500	2.7648	0.0679	466.3126
Industrial Park	112.538 / 0	502.5965	3.6863	0.0906	621.7459
Manufacturing	28.1339 / 0	125.6465	0.9216	0.0226	155.4333
Unrefrigerated Warehouse-No Rail	56.2701 / 0	251.3034	1.8432	0.0453	310.8793
Total		**1,256.4964**	**9.2158**	**0.2264**	**1,554.3711**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	84.4039 / 0	376.9500	2.7648	0.0679	466.3126
Industrial Park	112.538 / 0	502.5965	3.6863	0.0906	621.7459
Manufacturing	28.1339 / 0	125.6465	0.9216	0.0226	155.4333
Unrefrigerated Warehouse-No Rail	56.2701 / 0	251.3034	1.8432	0.0453	310.8793
Total		**1,256.4964**	**9.2158**	**0.2264**	**1,554.3711**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	291.4199	17.2224	0.0000	721.9805
Unmitigated	291.4199	17.2224	0.0000	721.9805

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	452.59	91.8717	5.4295	0.0000	227.6082
Industrial Park	603.45	122.4949	7.2392	0.0000	303.4759
Manufacturing	150.86	30.6232	1.8098	0.0000	75.8677
Unrefrigerated Warehouse-No Rail	228.73	46.4301	2.7439	0.0000	115.0287
Total		**291.4199**	**17.2224**	**0.0000**	**721.9805**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	452.59	91.8717	5.4295	0.0000	227.6082
Industrial Park	603.45	122.4949	7.2392	0.0000	303.4759
Manufacturing	150.86	30.6232	1.8098	0.0000	75.8677
Unrefrigerated Warehouse-No Rail	228.73	46.4301	2.7439	0.0000	115.0287
Total		**291.4199**	**17.2224**	**0.0000**	**721.9805**

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

GLC Warehouse Other Industrial Uses (Operations - Trucks)

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	364.99	1000sqft	8.38	364,989.00	0
Industrial Park	486.65	1000sqft	11.17	486,652.00	0
Unrefrigerated Warehouse-No Rail	243.33	1000sqft	5.59	243,326.00	0
Manufacturing	121.66	1000sqft	2.79	121,663.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2011
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

GLC Warehouse Other Industrial Uses (Operations - Trucks) - South Coast AQMD Air District, Annual

Project Characteristics -

Land Use -

Construction Phase - Other Land Uses Operations (Trucks) Run Only.

Off-road Equipment - Other Land Uses Operations (Trucks) Run Only.

Trips and VMT - Other Land Uses Operations (Trucks) Run Only.

Vehicle Trips - Other Land Uses Operations (Trucks) Run Only.

Fleet Mix - Other Land Uses Operations (Trucks) Run Only.

Energy Use -

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	PhaseEndDate	2/11/2009	1/1/2009
tblFleetMix	HHD	0.03	0.63
tblFleetMix	HHD	0.03	0.63
tblFleetMix	HHD	0.03	0.63
tblFleetMix	HHD	0.03	0.63
tblFleetMix	LDA	0.52	0.00
tblFleetMix	LDA	0.52	0.00
tblFleetMix	LDA	0.52	0.00
tblFleetMix	LDA	0.52	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00

tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.03	0.17
tblFleetMix	LHD1	0.03	0.17
tblFleetMix	LHD1	0.03	0.17
tblFleetMix	LHD1	0.03	0.17
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	LHD2	6.1170e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MCY	4.2540e-003	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MH	1.4370e-003	0.00
tblFleetMix	MHD	0.02	0.20
tblFleetMix	MHD	0.02	0.20
tblFleetMix	MHD	0.02	0.20
tblFleetMix	MHD	0.02	0.20
tblFleetMix	OBUS	1.8000e-003	0.00

tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	OBUS	1.8000e-003	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	SBUS	6.4100e-004	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblFleetMix	UBUS	2.8770e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	45.89
tblVehicleTrips	CW_TL	16.60	45.89
tblVehicleTrips	CW_TL	16.60	45.89
tblVehicleTrips	CW_TL	16.60	45.89
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00

GLC Warehouse Other Industrial Uses (Operations - Trucks) - South Coast AQMD Air District, Annual

tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	2.00	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	79.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	1.39
tblVehicleTrips	ST_TR	2.49	0.91
tblVehicleTrips	ST_TR	1.49	0.71
tblVehicleTrips	ST_TR	1.68	0.76
tblVehicleTrips	SU_TR	0.68	1.39
tblVehicleTrips	SU_TR	0.73	0.91
tblVehicleTrips	SU_TR	0.62	0.71
tblVehicleTrips	SU_TR	1.68	0.76
tblVehicleTrips	WD_TR	6.97	1.39
tblVehicleTrips	WD_TR	6.83	0.91
tblVehicleTrips	WD_TR	3.82	0.71
tblVehicleTrips	WD_TR	1.68	0.76

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					
2009	0.0000	0.0000	0.0000	0.0000	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					
2009	0.0000	0.0000	0.0000	0.0000	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	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Energy	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	5,512.5756	5,512.5756	0.2088	0.0554	5,534.3090
Mobile	16.3205	238.6174	84.7271	0.3266	8.9255	7.8169	16.7424	2.5119	7.4784	9.9903	0.0000	31,185.4529	31,185.4529	2.1617	0.0000	31,239.4954
Waste						0.0000	0.0000		0.0000	0.0000	291.4199	0.0000	291.4199	17.2224	0.0000	721.9805
Water						0.0000	0.0000		0.0000	0.0000	89.2580	1,167.2384	1,256.4964	9.2158	0.2264	1,554.3711
Total	**22.2144**	**239.3991**	**85.4005**	**0.3313**	**8.9255**	**7.8763**	**16.8018**	**2.5119**	**7.5379**	**10.0497**	**380.6779**	**37,865.2971**	**38,245.9750**	**28.8088**	**0.2819**	**39,050.1887**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Energy	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	5,512.5756	5,512.5756	0.2088	0.0554	5,534.3090
Mobile	16.3205	238.6174	84.7271	0.3266	8.9255	7.8169	16.7424	2.5119	7.4784	9.9903	0.0000	31,185.4529	31,185.4529	2.1617	0.0000	31,239.4954
Waste						0.0000	0.0000		0.0000	0.0000	291.4199	0.0000	291.4199	17.2224	0.0000	721.9805
Water						0.0000	0.0000		0.0000	0.0000	89.2580	1,167.2384	1,256.4964	9.2158	0.2264	1,554.3711
Total	**22.2144**	**239.3991**	**85.4005**	**0.3313**	**8.9255**	**7.8763**	**16.8018**	**2.5119**	**7.5379**	**10.0497**	**380.6779**	**37,865.2971**	**38,245.9750**	**28.8088**	**0.2819**	**39,050.1887**

	ROG	NOx	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	1/1/2009	1/1/2009	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
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

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

3.1 Mitigation Measures Construction

3.2 Demolition - 2009

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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 Demolition - 2009

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	16.3205	238.6174	84.7271	0.3266	8.9255	7.8169	16.7424	2.5119	7.4784	9.9903	0.0000	31,185.4529	31,185.4529	2.1617	0.0000	31,239.4954
Unmitigated	16.3205	238.6174	84.7271	0.3266	8.9255	7.8169	16.7424	2.5119	7.4784	9.9903	0.0000	31,185.4529	31,185.4529	2.1617	0.0000	31,239.4954

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	508.06	508.06	508.06	8,486,692	8,486,692
Industrial Park	440.42	440.42	440.42	7,356,759	7,356,759
Manufacturing	86.62	86.62	86.62	1,446,965	1,446,965
Unrefrigerated Warehouse-No Rail	185.90	185.90	185.90	3,105,284	3,105,284
Total	1,221.01	1,221.01	1,221.01	20,395,700	20,395,700

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	45.89	8.40	6.90	100.00	0.00	0.00	100	0	0
Industrial Park	45.89	8.40	6.90	100.00	0.00	0.00	100	0	0
Manufacturing	45.89	8.40	6.90	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No	45.89	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
General Light Industry	0.000000	0.000000	0.000000	0.000000	0.170000	0.000000	0.200000	0.630000	0.000000	0.000000	0.000000	0.000000	0.000000
Industrial Park	0.000000	0.000000	0.000000	0.000000	0.170000	0.000000	0.200000	0.630000	0.000000	0.000000	0.000000	0.000000	0.000000
Manufacturing	0.000000	0.000000	0.000000	0.000000	0.170000	0.000000	0.200000	0.630000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.170000	0.000000	0.200000	0.630000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: Y

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	4,661.8114	4,661.8114	0.1925	0.0398	4,678.4891
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,661.8114	4,661.8114	0.1925	0.0398	4,678.4891
NaturalGas Mitigated	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	850.7642	850.7642	0.0163	0.0156	855.8199
NaturalGas Unmitigated	0.0860	0.7815	0.6565	4.6900e-003		0.0594	0.0594		0.0594	0.0594	0.0000	850.7642	850.7642	0.0163	0.0156	855.8199

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	7.22678e+006	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.6486	385.6486	7.3900e-003	7.0700e-003	387.9403
Industrial Park	6.05395e+006	0.0326	0.2968	0.2493	1.7800e-003		0.0226	0.0226		0.0226	0.0226	0.0000	323.0619	323.0619	6.1900e-003	5.9200e-003	324.9817
Manufacturing	2.40893e+006	0.0130	0.1181	0.0992	7.1000e-004		8.9700e-003	8.9700e-003		8.9700e-003	8.9700e-003	0.0000	128.5495	128.5495	2.4600e-003	2.3600e-003	129.3135
Unrefrigerated Warehouse-No Rail	253059	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.5042	13.5042	2.6000e-004	2.5000e-004	13.5844
Total		**0.0860**	**0.7815**	**0.6565**	**4.6900e-003**		**0.0594**	**0.0594**		**0.0594**	**0.0594**	**0.0000**	**850.7642**	**850.7642**	**0.0163**	**0.0156**	**855.8199**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	7.22678e+006	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.6486	385.6486	7.3900e-003	7.0700e-003	387.9403
Industrial Park	6.05395e+006	0.0326	0.2968	0.2493	1.7800e-003		0.0226	0.0226		0.0226	0.0226	0.0000	323.0619	323.0619	6.1900e-003	5.9200e-003	324.9817
Manufacturing	2.40893e+006	0.0130	0.1181	0.0992	7.1000e-004		8.9700e-003	8.9700e-003		8.9700e-003	8.9700e-003	0.0000	128.5495	128.5495	2.4600e-003	2.3600e-003	129.3135
Unrefrigerated Warehouse-No Rail	253059	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.5042	13.5042	2.6000e-004	2.5000e-004	13.5844
Total		**0.0860**	**0.7815**	**0.6565**	**4.6900e-003**		**0.0594**	**0.0594**		**0.0594**	**0.0594**	**0.0000**	**850.7642**	**850.7642**	**0.0163**	**0.0156**	**855.8199**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.57696e+006	1,458.3182	0.0602	0.0125	1,463.5354
Industrial Park	7.41658e+006	2,363.0802	0.0976	0.0202	2,371.5342
Manufacturing	1.52565e+006	486.1061	0.0201	4.1500e-003	487.8451
Unrefrigerated Warehouse-No Rail	1.112e+006	354.3070	0.0146	3.0300e-003	355.5745
Total		**4,661.8114**	**0.1925**	**0.0398**	**4,678.4891**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.57696e+006	1,458.3182	0.0602	0.0125	1,463.5354
Industrial Park	7.41658e+006	2,363.0802	0.0976	0.0202	2,371.5342
Manufacturing	1.52565e+006	486.1061	0.0201	4.1500e-003	487.8451
Unrefrigerated Warehouse-No Rail	1.112e+006	354.3070	0.0146	3.0300e-003	355.5745
Total		**4,661.8114**	**0.1925**	**0.0398**	**4,678.4891**

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	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Unmitigated	5.8079	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327

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	1.4098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Total	**5.8079**	**1.7000e-004**	**0.0170**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0302**	**0.0302**	**1.0000e-004**	**0.0000**	**0.0327**

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	1.4098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8400e-003	1.7000e-004	0.0170	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0302	0.0302	1.0000e-004	0.0000	0.0327
Total	**5.8079**	**1.7000e-004**	**0.0170**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0302**	**0.0302**	**1.0000e-004**	**0.0000**	**0.0327**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,256.4964	9.2158	0.2264	1,554.3711
Unmitigated	1,256.4964	9.2158	0.2264	1,554.3711

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	84.4039 / 0	376.9500	2.7648	0.0679	466.3126
Industrial Park	112.538 / 0	502.5965	3.6863	0.0906	621.7459
Manufacturing	28.1339 / 0	125.6465	0.9216	0.0226	155.4333
Unrefrigerated Warehouse-No Rail	56.2701 / 0	251.3034	1.8432	0.0453	310.8793
Total		**1,256.4964**	**9.2158**	**0.2264**	**1,554.3711**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	84.4039 / 0	376.9500	2.7648	0.0679	466.3126
Industrial Park	112.538 / 0	502.5965	3.6863	0.0906	621.7459
Manufacturing	28.1339 / 0	125.6465	0.9216	0.0226	155.4333
Unrefrigerated Warehouse-No Rail	56.2701 / 0	251.3034	1.8432	0.0453	310.8793
Total		**1,256.4964**	**9.2158**	**0.2264**	**1,554.3711**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	291.4199	17.2224	0.0000	721.9805
Unmitigated	291.4199	17.2224	0.0000	721.9805

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	452.59	91.8717	5.4295	0.0000	227.6082
Industrial Park	603.45	122.4949	7.2392	0.0000	303.4759
Manufacturing	150.86	30.6232	1.8098	0.0000	75.8677
Unrefrigerated Warehouse-No Rail	228.73	46.4301	2.7439	0.0000	115.0287
Total		**291.4199**	**17.2224**	**0.0000**	**721.9805**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	452.59	91.8717	5.4295	0.0000	227.6082
Industrial Park	603.45	122.4949	7.2392	0.0000	303.4759
Manufacturing	150.86	30.6232	1.8098	0.0000	75.8677
Unrefrigerated Warehouse-No Rail	228.73	46.4301	2.7439	0.0000	115.0287
Total		**291.4199**	**17.2224**	**0.0000**	**721.9805**

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