Greenhouse Gas Analysis for the Escondido Victory Industrial Park, Escondido, California

Prepared for
Badiee Development
P.O. Box 3111
La Jolla, CA 92038
Contact: Mr. Scott Merry

Prepared by
RECON Environmental, Inc.
1927 Fifth Avenue
San Diego, CA 92101
P 619.308.9333

RECON Number 8175
June 17, 2016

Jessica Fleming, Environmental Analyst

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENT

Acronyms

AB	Assembly Bill
ACC	Advanced Clean Cars
BAU	business as usual
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards Code,
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFO	Clean Fuels Outlet
CH_4	methane
City	City of Escondido
CO_2	carbon dioxide
E-CAP	Escondido Climate Action Plan
EO	Executive Order
EPA	Environmental Protection Agency
GHG	greenhouse gas
GWP	Global warming potential
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEV	low emissions vehicle
LEV III	Low Emissions Vehicle III Standards
MMT CO_2E	million metric tons carbon dioxide equivalent
mpg	miles per gallon
MPO	Metropolitan Planning Organizations
MT CO_2E	metric tons carbon dioxide equivalent
N_2O	Nitrous oxide
RPS	Renewable Portfolio Standard
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDG&E	San Diego Gas & Electric
U.S. EPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
ZEV	zero emission vehicle

Executive Summary

The proposed Escondido Victory Industrial Park (project) is located at 2005 Harmony Grove Road in Escondido, California. The 5.24-acre site (4.87 acres on-site and 0.37 acre off-site) is currently undeveloped. The project would construct approximately 91,000 square feet of light industrial uses in two buildings. Building 1 would be approximately 55,500 square feet and Building 2 would be approximately 35,500 square feet. The project would also include 184 surface parking spaces.

In accordance with California Environmental Quality Act and City of Escondido (City) guidance, this analysis evaluates the significance of the project in terms of (1) its contribution of greenhouse gases (GHGs) to cumulative statewide emissions, and (2) whether the project would conflict with local and/or state regulations, plans, and policies adopted to reduce GHG emissions.

The emissions sources include construction (off-road vehicles); mobile (on-road vehicles); area sources (landscape maintenance equipment); water and wastewater; and solid waste. Emissions estimates in this report incorporate project compliance with applicable regulations, including the 2013 Title 24 Part 6 (California Energy Code) and Part 11 (California Green Building Standards) requirements. Based on emissions estimates, the project would generate 801 metric tons of carbon dioxides equivalent (MT CO_2E) annually. Emissions are projected to be less than the City's 2,500 MT CO_2E screening criterion. Therefore, the level of impacts associated with contribution of GHGs to cumulative statewide emissions would be less than cumulatively considerable. The project would not conflict with the goals and strategies of local and state plans, policies, and regulations adopted to reduce GHG emissions. Thus, impacts related to applicable policies, plans, and regulations would be less than significant.

1.0 Introduction

This report evaluates the significance of the proposed Escondido Victory Industrial Park (project) in the city of Escondido and its contribution of greenhouse gas (GHG) emissions to statewide GHG emissions and GHG reduction targets. To evaluate the incremental effect of project development on statewide emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem.

1.1 Understanding Global Climate Change

To evaluate the incremental effect of the project on statewide GHG emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem. Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 25; this means that CH_4 has 25 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

Table 1
Global Warming Potentials and Atmospheric Lifetimes (years)

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)*	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2013.			

It should be noted that the U.S. EPA and other organizations will update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator Model (CalEEMod) CH_4 has a GWP of 21 and N_2O has a GWP of 310, and these values were used for this analysis.

All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and N_2O would be emitted from the same project operations.

2.0 Project Description

The project is located at 2005 Harmony Grove Road in Escondido, California. The 5.24-acre site is currently undeveloped. The project would construct approximately 91,000 square feet of light industrial uses in two buildings. Building 1 would be approximately 55,500 square feet and Building 2 would be approximately 35,500 square feet. The project would also include 184 surface parking spaces.

Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project vicinity. Figure 3 shows the proposed site plan.

3.0 Existing Conditions

3.1 Environmental Setting

3.1.1 State and Regional GHG Inventories

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO_2 equivalent (MMT CO_2E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2008, and 2012.

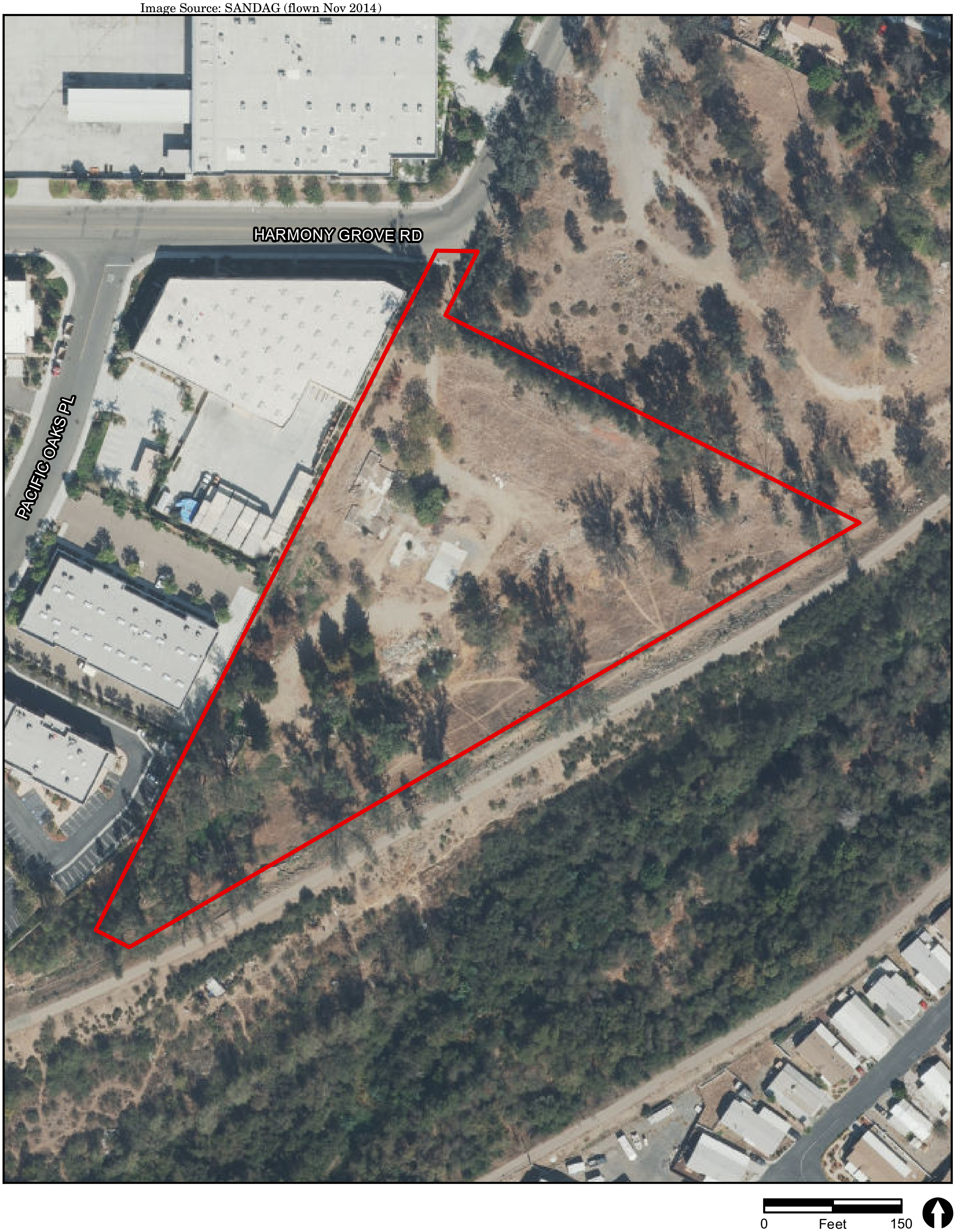
Project Location

FIGURE 1
Regional Location

RECON

M:\JOBS5\8175\common_gis\fig1_air.mxd 3/9/2016 sab

Image Source: SANDAG (flown Nov 2014)



Project Boundary

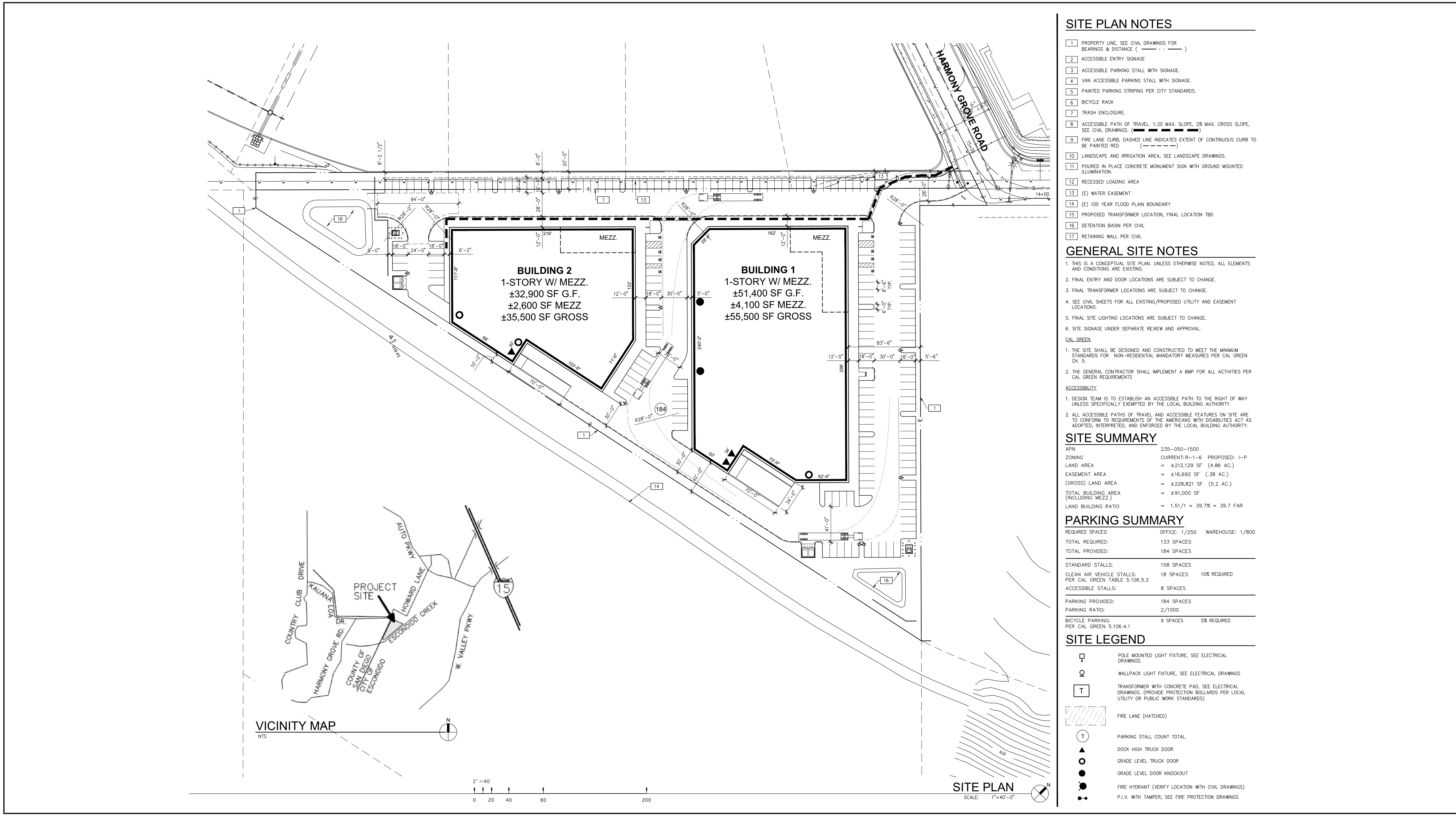
FIGURE 2

Project Location on Aerial Photograph

RECON

M:\JOBS5\8175\common_gis\fig2_air.mxd 3/11/2016 sab

Map Source: Ware Malcomb



0 Feet 80

FIGURE 3
Site Plan

Table 2
California GHG Emissions By Sector in 1990, 2008, and 2012

Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2008[3] Emissions in MMT CO_2E (% total)[2]	2012[3] Emissions in MMT CO_2E (% total)[2]
Sources			
Agriculture	23.4 (5%)	37.99 (7%)	37.86 (7%)
Commercial	14.4 (3%)	13.37 (3%)	14.20 (3%)
Electricity Generation	110.6 (26%)	120.15 (25%)	95.09 (19%)
High GWP	--	12.87 (2%)	18.41 (3%)
Industrial	103.0 (24%)	87.54 (18%)	89.16 (21%)
Recycling and Waste	--	8.09 (1%)	8.49 (2%)
Residential	29.7 (7%)	29.07 (6%)	28.09 (7%)
Transportation	150.7 (35%)	178.02 (37%)	167.38 (38%)
Forestry (Net CO_2 flux)[4]	-6.69	--	--
Not Specified[4]	1.27	--	--
TOTAL[5]	**426.6**	**487.10**	**458.68**

SOURCE: CARB 2007 and 2014a.
[1]1990 data was retrieved from the CARB 2007 source and are based on IPCC second assessment report GWPs. The revised calculation, which uses the scientifically updated IPCC fourth assessment report GWPs, is 431 MMT CO_2E.
[2]Percentages may not total 100 due to rounding.
[3]2008 and 2012 data was retrieved from the CARB 2014a source.
[4]Reported emissions for key sectors. The inventory totals for 2008 and 2012 did not include Forestry or Not Specified sources.
[5]Totals may vary due to independent rounding.

As shown in Table 2, statewide GHG source emissions totaled 427 MMT CO_2E in 1990, 487 MMT CO_2E in 2008, and 459 MMT CO_2E in 2012. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. CARB has adopted multiple GHG emission reduction measures, the effect of those which will be seen over the following years. According to CARB, substantial reductions since 2008 have been driven by economic factors (recession), previous energy efficiency actions, and the renewable portfolio standard (CARB 2014a). Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

The City's 2010 Community-wide Emissions Inventory was adopted in 2013 as a part of the Escondido Climate Action Plan (E-CAP; see Section 4.2.3, Climate Change Scoping Plan). Table 3 summarizes the inventory. As shown, the primary sources of GHG emissions in Escondido are energy (electricity and natural gas) and transportation.

Table 3 Escondido 2010 Community-Wide GHG Emissions By Source		
Category	MT CO_2E	Percent of Total
Energy	395,565	44.6%
Transportation	368,622	41.6%
Area Sources	52,559	5.9%
Solid Waste	41,724	4.7%
Water and Wastewater	25,360	2.9%
Construction	2,288	0.3%
TOTAL	**886,118**	100%
SOURCE: City of Escondido 2013a.		

3.1.2 On-Site GHG Emissions

The project site is currently undeveloped and is not a source of GHG emissions.

3.2 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

3.2.1 Federal

The federal government, U.S. EPA, and other federal agencies have many federal level programs and projects to reduce GHG emissions.

3.2.1.1 Environmental Protection Agency

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the proposed project is the Energy Star program.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products which represent the leading edge in energy efficient products in the year 2013 (U.S. EPA 2013).

The U.S. EPA also collaborates with the public sector, including states, tribes, localities and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy-Environment State Partnership Program, the Climate Ready Water Utilities

Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2014).

3.2.1.2 Corporate Average Fuel Economy Standards

The project would generate additional vehicle trips. These vehicles would consume fuel and would result in GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as part of the Energy and Security Act of 2007, the CAFE standards were increased in 2007 for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, plans were announced to further increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 mpg by 2016. In August 2012, fuel economy standards were further increased to 54.5 mpg for cars and light-duty trucks by Model Year 2025; this will nearly double the fuel efficiency of those vehicles compared to new vehicles currently on our roads. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

3.2.2.1 Executive Orders and Statewide GHG Emission Targets

S-3-05

This Executive Order (EO) established the following GHG emission reduction targets for the State of California:

- 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.

This EO also directs the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has been updated every two years.

B-30-15

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal. Therefore, in the coming months, CARB is expected to develop statewide inventory projection data for 2030, as well as commence its efforts to identify reduction strategies capable of securing emission reductions that allow for achievement of the EO's new interim goal.

3.2.2.2 Assembly Bill 32—California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

3.2.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework* for Change (2008 Scoping Plan). The 2008 Scoping Plan identifies the main strategies the State of California will implement to achieve the GHG reductions necessary to reduce statewide forecasted business as usual (BAU) GHG emissions in 2020 to the state's historic 1990 emissions level.

In 2008, as part of its adoption of the 2008 Scoping Plan, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a BAU condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximate 28.3 percent) reduction in BAU emissions was needed by 2020. The 2020 emissions estimate used in the 2008 Scoping Plan was developed using pre-recession data and reflects GHG emissions expected to occur in the absence of any reduction measures in 2010 (CARB 2011a). The majority of reductions are directed at the sectors with the largest GHG emissions contributions—transportation and electricity generation—and involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities.

Most recently, in 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (2014 Scoping Plan; CARB 2014b). The 2014 Scoping Plan "highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond

2020, on the path to 80 percent below 1990 levels by 2050" (CARB 2014b). The 2014 Scoping Plan found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals (CARB 2014b).

In conjunction with the 2014 Scoping Plan, CARB identified "six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050" (CARB 2014b). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The 2014 Scoping Plan identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014b). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the 2014 Scoping Plan, CARB recalculated statewide 1990 emissions level using updated GWPs identified by the Intergovernmental Panel on Climate Change. Using the recalculated 1990 emissions level and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

The 2014 Scoping Plan included a strong recommendation from CARB for setting a mid-term statewide GHG emissions reduction target. CARB specifically recommended that the mid-term target be consistent with: (i) the United States' pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35 percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050. However, to date, there is no legislative authorization for a post-2020 GHG reduction target, and CARB has not established such a target.

The 2014 Scoping Plan discusses new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings by 2020 for residential buildings and 2030 for commercial buildings, as an element of meeting mid-term and long-term GHG reduction goals. The 2014 Scoping Plan expresses CARB's commitment to working with the California Public Utilities Commission and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

The 2008 Scoping Plan and the 2014 Scoping Plan represent important milestones in California's efforts to reduce GHG emissions statewide. The law also requires the Scoping

Plan to be updated every five years. The Scoping Plan process, as stated, is also thorough and encourages public input and participation.

3.2.2.4 California Advanced Clean Car Program

The Advanced Clean Cars (ACC) program, adopted January 2012, combines the control of smog, soot causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2015 through 2025. Accordingly, the Advanced Clean Cars program coordinates the goals of the Pavley, low emissions vehicle (LEV), zero emission vehicle (ZEV), and Clean Fuels Outlet (CFO) programs in order to lay the foundation for the commercialization and support of these ultra-clean vehicles.

AB 1493 (Pavley) directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light-duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB has adopted amendments to its regulations that would enforce AB 1493, but provide vehicle manufacturers with new compliance flexibility.

CARB has also adopted a second phase of the Pavley regulations, originally termed "Pavley II" but now called the Low Emission Vehicle III" (LEV III) Standards or Advanced Clean Cars Program, that covers model years 2017 to 2025. CARB estimates that LEV III will reduce vehicle GHGs by an additional 4.0 MMT CO_2E for a 2.4 percent reduction over Pavley I. These reductions come from improved vehicle technologies such as smaller engines with superchargers, continuously variable transmissions, and hybrid electric drives. On August 7, 2012, the final regulation for the adoption of LEV III became effective.

The ZEV regulation affects passenger cars and light-duty trucks is a critical regulation to achieving California's air quality goals and GHG reduction requirements. ZEV was originally part of the LEV program, however, CARB established the ZEV program as a stand-alone regulation in 1999. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018-2025 model years.

On December 8, 2011 CARB proposed an update to the CFO regulation to facilitate hydrogen fueling stations. The CFO is part of CARB's overall program of promoting clean cars and advanced technology zero emission vehicles.

3.2.2.5 Low Carbon Fuel Standard

EO S-01-07 directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). LCFS promotes the use of GHG-reducing transportation fuels, e.g. liquid biofuels, renewable natural gas, electricity, and hydrogen, through a declining carbon intensity standard. The carbon intensity of a fuel is a measure of the GHG emissions associated with the production, distribution, and consumption of a fuel. CARB approved LCFS in 2009 and implemented it in 2010 as an early action measure under AB 32. Subsequently CARB approved amendments to the LCFS, which began implementation

January 1, 2013. Due to a court ruling that found procedural issues related to the original adoption of the LCFS, CARB re-adopted the LCFS regulation in September 2015, which went into effect on January 1, 2016. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas goals (CARB 2016).

3.2.2.6 Regional Emissions Targets – Senate Bill 375

Senate Bill (SB) 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. San Diego Association of Governments (SANDAG) is the San Diego region's MPO. The CARB targets for the SANDAG region require a 7 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035.

3.2.2.7 Renewables Portfolio Standard

The Renewables Portfolio Standard (RPS) promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. In September 2015, the California Legislature passed SB 350, which increases California's renewable energy mix goal to 50 percent by year 2030. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

3.2.2.8 California Code of Regulations, Title 24 – California Building Code

The California Code of Regulations, Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards.

Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. By reducing California's energy consumption, emissions of statewide GHGs may also be reduced. The previous Energy Code, known as the 2008 Energy Code, became effective January 1, 2010. The 2008 Energy Code required energy savings of 15 to 35 percent above the former 2005 Energy Code, which is relevant as the original GHG inventory for the state was based on the 2005 Energy Code.

The current version of the Energy Code, known as the 2013 Energy Code, became effective July 1, 2014. The 2013 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. Based on an impact analysis prepared by the CEC for single-family residences, the 2013 Energy Code has been estimated to achieve a 36.4 percent increase in electricity efficiencies and a 6.5 percent increase in natural gas efficiencies over the 2008 Energy Code (CEC 2013). The same report estimates increased efficiencies for multi-family residences of 23.3 percent for electricity use and 3.8 percent for natural gas use. Non-residential structures are estimated to achieve a 21.8 and 16.8 percent increase in electricity and natural gas efficiencies, respectively.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2013 CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle charging stations in newly constructed attached garages for single family and duplex dwellings; and
- Installation of electric vehicle charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units.

Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

3.2.3 Local

3.2.3.1 Escondido General Plan

The City General Plan was last updated in May 2012. The Resource Conservation Element contains air quality and climate protection policies aimed at reducing GHG emissions. The overall intent of these policies is to support climate protection actions, while retaining flexibility in the design of implementation measures, which could be influenced by new scientific research, technological advances, environmental conditions, or state and federal legislation. As such, these measures include policies such as “implementing land use patterns that reduce automobile dependence” and “promoting local agriculture.”

3.2.3.2 E-CAP

To address GHG emissions, the City adopted the E-CAP with the target of reducing GHG emissions within Escondido by 15 percent below existing levels by 2020 (City of Escondido 2013a). The E-CAP includes GHG inventories for 2010 and GHG forecasts for 2020 and 2035. The E-CAP identifies local measures to reduce transportation, energy, area source, water, solid waste, and construction emissions in 2020. Local GHG reductions would come from improvements to residential and commercial building energy efficiency (45.8 percent), revised land use policies, and increased public transportation (33.9 percent), and implementation of a Waste Disposal Program (18.1 percent).

4.0 Significance Criteria and Analysis Methodologies

4.1 Determining Significance

The California Environmental Quality Act (CEQA) Guidelines, Appendix G Environmental Checklist, includes the following two questions regarding assessment of GHG emissions:

1) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

2) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs?

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form).

The CEQA Guidelines require Lead Agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guidelines allow Lead Agencies to develop their own significance thresholds and/or to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

Adopted December 4, 2013, the City's *CEQA Thresholds and Screening Tables* provides guidance on how to assess the significance of GHG emissions (City of Escondido 2013b). City GHG Guidance recognizes that individual projects do not generate enough GHG emissions to have a significant direct impact to the environment; however, projects do contribute to cumulative emissions that may have a significant effect on the environment. The City's GHG Guidance includes a screening level of 2,500 MT CO_2E to determine the need for additional analysis of project emissions. Where a project's emission are projected to exceed 2,500 MT CO_2E, further analysis with respect to the City's GHG Guidance is required.

Projects that exceed the 2,500 MT CO_2E screening level must demonstrate that the project would achieve GHG reductions that are consistent with City goals established in the E-CAP. This can be demonstrated through one of two methods: (1) a qualitative method using a list of GHG reduction measures contained in the Screening Tables from the City's *CEQA Thresholds and Screening Tables* document; or (2) a quantitative method demonstrating that the project would achieve a 20.6 percent reduction in GHG emissions when compared to an "unmitigated" project.

The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The Screening Table method assigns points for project design features and project mitigation measures (collectively referred to as "feature"). Point values correspond to the minimum emissions reduction expected from each feature. The 100-point scale corresponds to an approximate 20.6 percent reduction of GHG emissions from new development as compared to an "unmitigated" condition, which does not include any features to reduce GHG emissions. Projects that garner at least 100 points would be considered consistent with the reduction quantities anticipated in the City's E-CAP on a project level. As such, those projects would be determined to have a less than significant impact for GHG emissions.

Alternatively, a project may demonstrate consistency without the use of the Screening Tables by demonstrating a 20.6 percent reduction in GHG emissions when compared to its "unmitigated" (business as usual) emissions. The E-CAP includes a forecast of 2020 "unmitigated" emissions from a benchmark of 2010 emissions. Thus, calculation of "unmitigated" project GHG emissions is a calculation of what the project's GHG emissions would be under average efficiency assumptions for 2010. Project proponents then must calculate their estimate of current GHG emissions including any post-2010 California regulations and applicant-proposed reduction measures to determine if the project would provide a minimum 20.6 percent reduction over the "unmitigated" project.

4.2 Methodology and Assumptions

To evaluate the project's net GHG emissions, emissions were calculated using the CalEEMod version 2013.2.2 released in September 2013 by CAPCOA (CAPCOA 2013). CalEEMod was developed with the participation of several state air districts, including the San Diego Air Pollution Control District. CalEEMod can be used to calculate emissions from construction (off-road vehicles), mobile (on-road vehicles), area (fireplaces, consumer products [cleansers, aerosols, solvents], landscape maintenance equipment, architectural coatings), water and wastewater, and solid waste sources. GHG emissions are estimated in terms of total MT CO_2E.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2013). Specific site plans and construction schedules are not available at this time. Thus, the project was modeled with an operational year of 2020 to parallel the year of the City and State GHG reduction goals.

4.2.1 Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control.

Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used. GHG emissions associated with each phase of project construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors. The number and pieces of construction equipment are calculated based on the project-specific design. In the absence of project-specific construction information, equipment for all phases of construction is estimated based on the size of the land use.

Construction emissions were modeled assuming construction would begin in October 2016 and last for approximately nine months. Construction emissions are calculated for construction activity based on the construction equipment profile and other factors determined as needed to complete all phases of construction. Based on guidance from the South Coast Air Quality Management District (SCAQMD), total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

4.2.2 Vehicle Emissions

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for each land use. The vehicle emission factors and fleet mix used in CalEEMod are derived from CARB's Emission Factors 2011 model, which includes GHG reducing effects from the implementation of Pavley I (Clean Car Standards) and the Low Carbon Fuel Standard, and are thus considered in the calculation of standards for project emissions. The emissions from mobile sources were reduced by an additional 3 percent to account for implementation of Low Emission Vehicles III and the Tire Pressure Program.

Project trip generation rates were developed from SANDAG trip generation rates (SANDAG 2002). According to SANDAG, light industrial uses generate 8 trips per 1,000 square feet. Therefore, the project would generate 728 average daily trips. Based on SANDAG regional data, an average regional trip length of 5.8 miles for urban areas was used to determine total project vehicle miles traveled (VMT) (SANDAG 2014).

4.2.3 Energy Use Emissions

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, this is considered a direct emissions source associated with that building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating.

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

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

Energy consumption values are based on the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies, which identify energy use by building type and climate zone. Because these studies are based on older buildings, adjustments have been made in CalEEMod to account for changes to Title 24 Building Codes. CalEEMod is based on the 2008 Title 24 energy code (Part 6 of the Building Code).

As identified by the CEC, the Energy Code requires various improvements in the built environment that would achieve a 21.8 percent increase in electricity efficiency and a 16.8 percent increase in natural gas efficiency in non-residential buildings (CEC 2013).

The project would be served by San Diego Gas & Electric (SDG&E). Therefore, SDG&E's specific energy-intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. As discussed, the state mandate for renewable energy is 33 percent by 2020. However, the energy-intensity factors included in CalEEMod by default only represent a 10.2 percent procurement of renewable energy (SDG&E 2011). To account for the continuing effects of RPS through 2020, the energy-intensity factors included in CalEEMod were reduced by 22.8 percent. SDG&E energy intensity factors are shown in Table 4.

Table 4
San Diego Gas & Electric Intensity Factors

GHG	2009 (lbs/MWh)	2020 (lbs/MWh)
Carbon Dioxide (CO_2)	780.79	556.22
Methane (CH_4)	0.029	0.022
Nitrous Oxide (N_2O)	0.011	0.005

SOURCE: SDG&E 2011.
lbs = pounds
MWh = megawatt hour

4.2.4 Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values were derived from the 2011 In-Use Off-Road Equipment Inventory Model (CARB 2011b).

4.2.5 Water and Wastewater Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 (as cited in CAPCOA 2013). Based on that report, a percentage of total water consumption was dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation was similarly based on a reported percentage of total indoor water use (CAPCOA 2013).

The project would be subject to CalGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to demonstrate compliance with CalGreen, a 20 percent reduction in indoor water use was included in the water consumption calculations for the project.

In addition to water reductions under CalGreen, the GHG emissions from the energy used to transport the water are affected by RPS. As discussed previously, to account for the effects of RPS through 2020, the energy-intensity factors included in CalEEMod were reduced by 22.8 percent (see Table 4).

4.2.6 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters.

4.2.7 GHG Emissions Modeling Summary

Table 5 provides a summary of the calculation methodology for each emission source calculated.

Table 5
Summary of GHG Emission Calculation Methodology

Source	Project Emission Calculation
Construction	Construction emissions were amortized over 30 years and added to operational emissions.
Vehicles	Vehicle emissions were calculated using vehicle emission factors for year 2020. Calculations also took into account LEV III and the Tire Pressure Program.
Energy	Energy calculations include increased energy efficiency (21.8 percent over 2008 Energy Code standards for electricity and 16.8 percent for natural gas for non-residential buildings). Additionally, to account for the effects of RPS through 2020, the SDG&E energy-intensity factors included in CalEEMod were reduced by 22.8 percent.
Area	Area-source emissions were calculated based on standard landscaping equipment and quantities and consumer product emission factors. The project would not include woodstoves or fireplaces.
Water	A 20 percent increase in indoor water use efficiency was included in the water consumption calculations in accordance with 2013 CalGreen standards. Additionally, to account for the effects of RPS through 2020, the SDG&E energy-intensity factors included in CalEEMod were reduced by 22.8 percent.
Solid Waste	Emissions were calculated using standard generation rates and emission factors, which are based on California Department of Resources Recycling and Recovery waste generation rates.

5.0 GHG Impact Analysis

In accordance with CEQA and City GHG Guidance, this analysis evaluates the significance of the project in terms of (1) its contribution of GHGs to cumulative statewide emissions and (2) whether the project would conflict with local and state regulations, plans, and policies aimed at reducing GHG emissions.

5.1 GHG Emissions

5.1.1 Impacts

The City has determined that new development projects emitting less than 2,500 MT CO_2E annual GHG would not contribute considerably to cumulative climate change impacts. For project's that exceed the 2,500 MT CO_2E screening threshold, further analysis with respect to the City's GHG Guidance is required.

Based on the methodology summarized in Section 4.2, Methodology and Assumptions, the primary sources of direct and indirect GHG emissions have been calculated. Table 6 summarizes the project emissions. The complete model outputs for the project are included in Attachment 1.

Table 6
Project GHG Emissions
(MT CO_2E per Year)

Emission Source	Project GHG Emissions
Vehicles	401
Energy Use	254
Area Sources	0
Water Use	76
Solid Waste Disposal	51
Construction	18
TOTAL	**801**
Note: Totals may vary due to independent rounding.	

5.1.2 Significance of Impacts

As demonstrated, the project would result in a total of 801 MT CO_2E annually. Emissions are projected to be less than the 2,500 MT CO_2E screening level. By emitting less than 2,500 MT CO_2E the project's contribution of GHGs to cumulative statewide emissions would be less than cumulatively considerable. Therefore, the project's direct and indirect GHG emissions would have a less than significant impact on the environment.

5.2 Applicable Adopted Plans, Policies, and Regulations Intended to Reduce GHG Emissions

5.2.1 Impacts

AB 32 codified the 2020 goal of reducing statewide GHG emissions to 1990 levels and launched the Climate Change Scoping Plan that outlined the reduction measures needed to reach these targets. Following the state's adopted AB 32 GHG reduction target, the City has set a goal to reduce emissions back to 1990 levels by the year 2020. The City's E-CAP was prepared to demonstrate how this would be achieved. As the project is below the screening threshold, it would not conflict with implementation of the E-CAP or interfere with the City achieving the GHG reduction goals outlined in the E-CAP, and would not conflict with the AB 32 mandate for reducing GHG emissions at the state level.

As discussed in Section 3.2.2.1, EO S-3-05 establishes an executive policy of reducing GHG emissions to 80 percent below 1990 levels by 2050. Additionally, EO B-30-15 establishes an interim GHG emission reduction policy by the executive branch for the state of California to reduce GHG emissions 40 percent below 1990 levels by 2030. The 2020 GHG emission policy of EO S-3-05, to reduce GHG emissions to 1990 levels by 2020, was codified by the Legislature's adoption of AB 32. As discussed above, the project would be consistent with the reduction goals of AB 32. The 2050 goal of EO S-3-05 was not codified by the Legislature. Similarly, EO B-30-15's goal to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 has not been codified by the Legislature. Nonetheless, because these two EOs represent a GHG reduction policy in the context of CEQA and the strong interest in California's post-2020 climate policy, this analysis renders a determination as to whether the project would conflict with or impede substantial progress towards the statewide reduction policies established by EO B-30-15 for 2030 and by EO S-3-05 for 2050. As illustrated above, the project would emit less than 2,500 MT CO_2E annually and would not interfere with the City achieving the GHG reduction goals outlined in the E-CAP. Further, the project's 2020 emissions represent the maximum emissions inventory for the project; as project emissions would continue to decline from 2020 through at least 2050 based on regulatory forecasting. Emission reductions beyond 2020 would occur because of continuing implementation of regulations that further increase vehicle fuel efficiency and reduce GHG emissions from mobile sources, and the continuing procurement of renewable energy sources to meet RPS goals through year 2030. Given the reasonably anticipated decline in project emissions, due to existing regulatory programs once fully constructed and operational, the project emissions would continue to decline in line with the GHG reductions needed to achieve the EOs' interim (2030) and horizon-year (2050) goals. Therefore, the project would not conflict with the long-term GHG policy goals of the State. As such, the project's impacts with respect to the state's post-2020 GHG emissions goals under EO B-30-15 and EO S-3-05 would be less than significant.

5.2.2 Significance of Impacts

The project would not conflict with any local or state plan, policy, or regulation aimed at reducing GHG emissions from land use and development. Thus, impacts would be less than significant.

6.0 Conclusions

As summarized in Table 6, the project would result in a total of 801 MT CO_2E per year. Emissions are projected to be less than the 2,500 MT CO_2E screening criterion. Therefore, the level of impacts associated with contribution of GHGs to cumulative emissions would be less than cumulatively considerable. The project would not conflict with the goals and strategies of local and state plans, policies, and regulations adopted to reduce GHG emissions. Thus, impacts on applicable policies, plans, and regulations would be less than significant.

7.0 References Cited

California Air Pollution Control Officers Association (CAPCOA)
2013 California Emissions Estimator model (CalEEMod). User's Guide Version 2013.2.2 September.

California Air Resources Board (CARB)
2007 California Greenhouse Gas Inventory – Summary by Economic Sector. Last updated November, 19 2007. Accessed April, 2014.

2008 Climate Change Scoping Plan: A Framework for Change. http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. December.

2011a Status of Scoping Plan Recommended Measures, July. Available at http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf. Accessed February 19, 2014.

2011b In-Use Off-Road Equipment (Construction, Industrial, Ground Support, and Oil Drilling) 2011 Inventory Model.

2014a Greenhouse Gas Inventory Data—2000 to 2012. Obtained from the CARB website at http://www.arb.ca.gov/cc/inventory/data/data.htm (last updated March 24, 2014).

2014b First Update to the Climate Change Scoping Plan. Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006. May 2014.

2016 Low Carbon Fuel Standard Program Background. Available at http://www.arb.ca.gov/fuels/lcfs/lcfs-background.htm. February 2, 2016.

California Energy Commission (CEC)
2013 Impact Analysis California's 2013 Building Energy Efficiency Standards. July.

Escondido, City of
2013a City of Escondido Adopted Climate Action Plan. December 4.

2013b City of Escondido Greenhouse Gas Emissions, Adopted CEQA Thresholds and Screening Tables. December 4.

Intergovernmental Panel on Climate Change (IPCC)
2013 Fifth Assessment Report (AR4), Climate Change 2013: Synthesis Report.

San Diego Association of Governments (SANDAG)
2002 (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region. April 2002.

2014 Correspondence with RECON and SANDAG on 03/20/14 confirming the urban regional trip length of 5.8 miles derived from Series 12 base year (2008) model.

San Diego Gas and Electric (SDG&E)
2011 March 2011 Semi-Annual Compliance Report Pursuant to the California Renewables Portfolio Standard. Filed March.

South Coast Air Quality Management District (SCAQMD)
2009 Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group 14. http://www.aqmd.gov/ceqa/handbook/GHG/2009/nov19mtg/ghgmtg14.pdf. November 19, 2009.

U.S. Environmental Protection Agency (U.S. EPA)
2010 *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008*. U.S. Greenhouse Gas Inventory Program, Office of Atmospheric Programs. 430-R-10-006. April 15.

2013 Energy Star. http://www.energystar.gov Accessed July 2, 2013.

2014 U.S. EPA State and Local Climate and Energy Program. http://www.epa.gov/statelocalclimate/index.html. Accessed January 23.

ATTACHMENT 1

CalEEMod Output–Project Emissions

8175 Escondido Victory Industrial Park
GHG Emission Calculations

Source	Project 2020*
Vehicles	401
Energy	254
Area	0
Water	76
Waste	51
Construction	18
TOTAL	**801**

*Vehicle emissions include reductions provided by LEV III and the Tire Pressure Program.
These reductions are not included in CalEEMod and were calculated post-process

8175 Harmony Grove Industrial

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	91.00	1000sqft	4.87	91,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	556.22	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS Goal
CalEEMod accounts for 10.2%
Additional 22.8% reduction applied

Land Use - 4.87 acre site

Construction Phase - Approximate 9 month construction schedule, October 2016-July 2017

Architectural Coating - SDAPCD VOC content limit, Rule 67

Vehicle Trips - SANDAG trip generation rate - 8/1,000 sq ft
SANDAG trip length - 5.8 miles

Woodstoves -

Area Coating - SDAPCD VOC content limit, Rule 67

Energy Use - 2013 Title 24
21.8% increase electricity efficiency (1.16)
16.8 increase natural gas efficiency (3.78)

Water And Wastewater - CalGreen - 20% decrease in interior water use

Solid Waste -

Area Mitigation -

Trips and VMT - 18 cy per truck

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblConstructionPhase	NumDays	230.00	145.00
tblConstructionPhase	NumDays	8.00	30.00
tblConstructionPhase	PhaseStartDate	11/19/2016	11/21/2016
tblConstructionPhase	PhaseStartDate	10/8/2016	10/10/2016
tblConstructionPhase	PhaseStartDate	6/10/2017	6/12/2017
tblEnergyUse	T24E	1.48	1.16
tblEnergyUse	T24NG	4.54	3.78
tblGrading	MaterialImported	0.00	67,000.00
tblLandUse	LotAcreage	2.09	4.87
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	6,625.00	7,445.00
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CNW_TL	7.30	5.80
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	WD_TR	6.97	8.00
tblWater	IndoorWaterUseRate	21,043,750.00	16,835,000.00

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					
2016	0.2022	2.2476	1.7292	3.8700e-003	0.2152	0.0845	0.2996	0.0950	0.0783	0.1733	0.0000	353.0394	353.0394	0.0267	0.0000	353.5996
2017	0.6873	1.7746	1.3780	2.1800e-003	0.0252	0.1143	0.1394	6.8000e-003	0.1072	0.1140	0.0000	191.0995	191.0995	0.0397	0.0000	191.9337
Total	**0.8895**	**4.0221**	**3.1072**	**6.0500e-003**	**0.2403**	**0.1987**	**0.4391**	**0.1018**	**0.1855**	**0.2873**	**0.0000**	**544.1389**	**544.1389**	**0.0664**	**0.0000**	**545.5333**

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					
2016	0.2022	2.2476	1.7292	3.8700e-003	0.2152	0.0845	0.2996	0.0950	0.0783	0.1733	0.0000	353.0393	353.0393	0.0267	0.0000	353.5995
2017	0.6873	1.7746	1.3780	2.1800e-003	0.0252	0.1143	0.1394	6.8000e-003	0.1072	0.1140	0.0000	191.0993	191.0993	0.0397	0.0000	191.9335
Total	**0.8895**	**4.0221**	**3.1072**	**6.0500e-003**	**0.2403**	**0.1987**	**0.4391**	**0.1018**	**0.1855**	**0.2873**	**0.0000**	**544.1386**	**544.1386**	**0.0664**	**0.0000**	**545.5330**

	ROG	**NOx**	**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**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4029	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003
Energy	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	252.8473	252.8473	8.9100e-003	2.7700e-003	253.8942
Mobile	0.2662	0.4883	2.4231	5.9500e-003	0.4044	6.9800e-003	0.4114	0.1082	6.4400e-003	0.1146	0.0000	412.8226	412.8226	0.0164	0.0000	413.1673
Waste						0.0000	0.0000		0.0000	0.0000	22.9055	0.0000	22.9055	1.3537	0.0000	51.3327
Water						0.0000	0.0000		0.0000	0.0000	5.3410	55.3057	60.6467	0.5508	0.0135	76.3821
Total	**0.6745**	**0.5375**	**2.4652**	**6.2500e-003**	**0.4044**	**0.0107**	**0.4151**	**0.1082**	**0.0102**	**0.1183**	**28.2465**	**720.9772**	**749.2237**	**1.9298**	**0.0162**	**794.7780**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4029	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003
Energy	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	252.8473	252.8473	8.9100e-003	2.7700e-003	253.8942
Mobile	0.2662	0.4883	2.4231	5.9500e-003	0.4044	6.9800e-003	0.4114	0.1082	6.4400e-003	0.1146	0.0000	412.8226	412.8226	0.0164	0.0000	413.1673
Waste						0.0000	0.0000		0.0000	0.0000	22.9055	0.0000	22.9055	1.3537	0.0000	51.3327
Water						0.0000	0.0000		0.0000	0.0000	5.3410	55.3057	60.6467	0.5507	0.0134	76.3751
Total	**0.6745**	**0.5375**	**2.4652**	**6.2500e-003**	**0.4044**	**0.0107**	**0.4151**	**0.1082**	**0.0102**	**0.1183**	**28.2465**	**720.9772**	**749.2237**	**1.9297**	**0.0162**	**794.7710**

	ROG	**NOx**	**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**	**0.12**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/3/2016	10/7/2016	5	5	
2	Grading	Grading	10/10/2016	11/18/2016	5	30	
3	Building Construction	Building Construction	11/21/2016	6/9/2017	5	145	
4	Paving	Paving	6/12/2017	7/5/2017	5	18	
5	Architectural Coating	Architectural Coating	7/6/2017	7/31/2017	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 15

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 136,500; Non-Residential Outdoor: 45,500 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	7,445.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1366	0.1028	1.0000e-004		7.3500e-003	7.3500e-003		6.7600e-003	6.7600e-003	0.0000	9.2193	9.2193	2.7800e-003	0.0000	9.2777
Total	**0.0127**	**0.1366**	**0.1028**	**1.0000e-004**	**0.0452**	**7.3500e-003**	**0.0525**	**0.0248**	**6.7600e-003**	**0.0316**	**0.0000**	**9.2193**	**9.2193**	**2.7800e-003**	**0.0000**	**9.2777**

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	1.5000e-004	2.0000e-004	1.9400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3363	0.3363	2.0000e-005	0.0000	0.3367
Total	**1.5000e-004**	**2.0000e-004**	**1.9400e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3363**	**0.3363**	**2.0000e-005**	**0.0000**	**0.3367**

3.2 Site Preparation - 2016

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1366	0.1028	1.0000e-004		7.3500e-003	7.3500e-003		6.7600e-003	6.7600e-003	0.0000	9.2193	9.2193	2.7800e-003	0.0000	9.2777
Total	**0.0127**	**0.1366**	**0.1028**	**1.0000e-004**	**0.0452**	**7.3500e-003**	**0.0525**	**0.0248**	**6.7600e-003**	**0.0316**	**0.0000**	**9.2193**	**9.2193**	**2.7800e-003**	**0.0000**	**9.2777**

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	1.5000e-004	2.0000e-004	1.9400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3363	0.3363	2.0000e-005	0.0000	0.3367
Total	**1.5000e-004**	**2.0000e-004**	**1.9400e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3363**	**0.3363**	**2.0000e-005**	**0.0000**	**0.3367**

3.3 Grading - 2016

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0550	0.5767	0.3912	4.5000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	42.0996	42.0996	0.0127	0.0000	42.3662
Total	**0.0550**	**0.5767**	**0.3912**	**4.5000e-004**	**0.0983**	**0.0330**	**0.1313**	**0.0505**	**0.0303**	**0.0809**	**0.0000**	**42.0996**	**42.0996**	**0.0127**	**0.0000**	**42.3662**

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	0.0779	1.0809	0.8906	2.7800e-003	0.0635	0.0143	0.0778	0.0174	0.0131	0.0306	0.0000	254.2658	254.2658	1.8200e-003	0.0000	254.3040
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	7.7000e-004	1.0200e-003	9.7200e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6815	1.6815	9.0000e-005	0.0000	1.6833
Total	**0.0787**	**1.0819**	**0.9003**	**2.8000e-003**	**0.0653**	**0.0143**	**0.0796**	**0.0179**	**0.0131**	**0.0311**	**0.0000**	**255.9472**	**255.9472**	**1.9100e-003**	**0.0000**	**255.9873**

3.3 Grading - 2016

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0550	0.5767	0.3912	4.5000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	42.0995	42.0995	0.0127	0.0000	42.3662
Total	**0.0550**	**0.5767**	**0.3912**	**4.5000e-004**	**0.0983**	**0.0330**	**0.1313**	**0.0505**	**0.0303**	**0.0809**	**0.0000**	**42.0995**	**42.0995**	**0.0127**	**0.0000**	**42.3662**

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	0.0779	1.0809	0.8906	2.7800e-003	0.0635	0.0143	0.0778	0.0174	0.0131	0.0306	0.0000	254.2658	254.2658	1.8200e-003	0.0000	254.3040
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	7.7000e-004	1.0200e-003	9.7200e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6815	1.6815	9.0000e-005	0.0000	1.6833
Total	**0.0787**	**1.0819**	**0.9003**	**2.8000e-003**	**0.0653**	**0.0143**	**0.0796**	**0.0179**	**0.0131**	**0.0311**	**0.0000**	**255.9472**	**255.9472**	**1.9100e-003**	**0.0000**	**255.9873**

3.4 Building Construction - 2016

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	0.0511	0.4276	0.2776	4.0000e-004		0.0295	0.0295		0.0277	0.0277	0.0000	36.3230	36.3230	9.0100e-003	0.0000	36.5122
Total	**0.0511**	**0.4276**	**0.2776**	**4.0000e-004**		**0.0295**	**0.0295**		**0.0277**	**0.0277**	**0.0000**	**36.3230**	**36.3230**	**9.0100e-003**	**0.0000**	**36.5122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5600e-003	0.0220	0.0308	5.0000e-005	1.4600e-003	3.2000e-004	1.7900e-003	4.2000e-004	3.0000e-004	7.2000e-004	0.0000	4.8543	4.8543	4.0000e-005	0.0000	4.8551
Worker	1.9600e-003	2.5800e-003	0.0246	6.0000e-005	4.5700e-003	4.0000e-005	4.6100e-003	1.2100e-003	3.0000e-005	1.2500e-003	0.0000	4.2597	4.2597	2.3000e-004	0.0000	4.2644
Total	**4.5200e-003**	**0.0246**	**0.0554**	**1.1000e-004**	**6.0300e-003**	**3.6000e-004**	**6.4000e-003**	**1.6300e-003**	**3.3000e-004**	**1.9700e-003**	**0.0000**	**9.1140**	**9.1140**	**2.7000e-004**	**0.0000**	**9.1195**

3.4 Building Construction - 2016

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	0.0511	0.4276	0.2776	4.0000e-004		0.0295	0.0295		0.0277	0.0277	0.0000	36.3230	36.3230	9.0100e-003	0.0000	36.5122
Total	**0.0511**	**0.4276**	**0.2776**	**4.0000e-004**		**0.0295**	**0.0295**		**0.0277**	**0.0277**	**0.0000**	**36.3230**	**36.3230**	**9.0100e-003**	**0.0000**	**36.5122**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5600e-003	0.0220	0.0308	5.0000e-005	1.4600e-003	3.2000e-004	1.7900e-003	4.2000e-004	3.0000e-004	7.2000e-004	0.0000	4.8543	4.8543	4.0000e-005	0.0000	4.8551
Worker	1.9600e-003	2.5800e-003	0.0246	6.0000e-005	4.5700e-003	4.0000e-005	4.6100e-003	1.2100e-003	3.0000e-005	1.2500e-003	0.0000	4.2597	4.2597	2.3000e-004	0.0000	4.2644
Total	**4.5200e-003**	**0.0246**	**0.0554**	**1.1000e-004**	**6.0300e-003**	**3.6000e-004**	**6.4000e-003**	**1.6300e-003**	**3.3000e-004**	**1.9700e-003**	**0.0000**	**9.1140**	**9.1140**	**2.7000e-004**	**0.0000**	**9.1195**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.5183	1.0424	1.5400e-003		0.1024	0.1024		0.0962	0.0962	0.0000	137.7005	137.7005	0.0339	0.0000	138.4122
Total	**0.1784**	**1.5183**	**1.0424**	**1.5400e-003**		**0.1024**	**0.1024**		**0.0962**	**0.0962**	**0.0000**	**137.7005**	**137.7005**	**0.0339**	**0.0000**	**138.4122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9800e-003	0.0753	0.1115	2.0000e-004	5.6100e-003	1.0800e-003	6.6900e-003	1.6100e-003	9.9000e-004	2.6000e-003	0.0000	18.2936	18.2936	1.4000e-004	0.0000	18.2965
Worker	6.7900e-003	9.0000e-003	0.0851	2.2000e-004	0.0175	1.3000e-004	0.0177	4.6600e-003	1.2000e-004	4.7800e-003	0.0000	15.6978	15.6978	8.0000e-004	0.0000	15.7146
Total	**0.0158**	**0.0843**	**0.1966**	**4.2000e-004**	**0.0231**	**1.2100e-003**	**0.0243**	**6.2700e-003**	**1.1100e-003**	**7.3800e-003**	**0.0000**	**33.9915**	**33.9915**	**9.4000e-004**	**0.0000**	**34.0111**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.5183	1.0424	1.5400e-003		0.1024	0.1024		0.0962	0.0962	0.0000	137.7003	137.7003	0.0339	0.0000	138.4120
Total	**0.1784**	**1.5183**	**1.0424**	**1.5400e-003**		**0.1024**	**0.1024**		**0.0962**	**0.0962**	**0.0000**	**137.7003**	**137.7003**	**0.0339**	**0.0000**	**138.4120**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9800e-003	0.0753	0.1115	2.0000e-004	5.6100e-003	1.0800e-003	6.6900e-003	1.6100e-003	9.9000e-004	2.6000e-003	0.0000	18.2936	18.2936	1.4000e-004	0.0000	18.2965
Worker	6.7900e-003	9.0000e-003	0.0851	2.2000e-004	0.0175	1.3000e-004	0.0177	4.6600e-003	1.2000e-004	4.7800e-003	0.0000	15.6978	15.6978	8.0000e-004	0.0000	15.7146
Total	**0.0158**	**0.0843**	**0.1966**	**4.2000e-004**	**0.0231**	**1.2100e-003**	**0.0243**	**6.2700e-003**	**1.1100e-003**	**7.3800e-003**	**0.0000**	**33.9915**	**33.9915**	**9.4000e-004**	**0.0000**	**34.0111**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1512	0.1124	1.7000e-004		9.0500e-003	9.0500e-003		8.3400e-003	8.3400e-003	0.0000	15.2992	15.2992	4.5600e-003	0.0000	15.3950
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0149**	**0.1512**	**0.1124**	**1.7000e-004**		**9.0500e-003**	**9.0500e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**15.2992**	**15.2992**	**4.5600e-003**	**0.0000**	**15.3950**

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	5.6000e-004	7.4000e-004	7.0100e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2932	1.2932	7.0000e-005	0.0000	1.2946
Total	**5.6000e-004**	**7.4000e-004**	**7.0100e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2932**	**1.2932**	**7.0000e-005**	**0.0000**	**1.2946**

3.5 Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1512	0.1124	1.7000e-004		9.0500e-003	9.0500e-003		8.3400e-003	8.3400e-003	0.0000	15.2991	15.2991	4.5600e-003	0.0000	15.3950
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0149**	**0.1512**	**0.1124**	**1.7000e-004**		**9.0500e-003**	**9.0500e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**15.2991**	**15.2991**	**4.5600e-003**	**0.0000**	**15.3950**

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	5.6000e-004	7.4000e-004	7.0100e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2932	1.2932	7.0000e-005	0.0000	1.2946
Total	**5.6000e-004**	**7.4000e-004**	**7.0100e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2932**	**1.2932**	**7.0000e-005**	**0.0000**	**1.2946**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4745					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0197	0.0168	3.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	2.2979	2.2979	2.4000e-004	0.0000	2.3030
Total	**0.4775**	**0.0197**	**0.0168**	**3.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**2.2979**	**2.2979**	**2.4000e-004**	**0.0000**	**2.3030**

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	2.2000e-004	3.0000e-004	2.8000e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5173	0.5173	3.0000e-005	0.0000	0.5178
Total	**2.2000e-004**	**3.0000e-004**	**2.8000e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5173**	**0.5173**	**3.0000e-005**	**0.0000**	**0.5178**

3.6 Architectural Coating - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4745					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0197	0.0168	3.0000e-005		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	2.2979	2.2979	2.4000e-004	0.0000	2.3030
Total	**0.4775**	**0.0197**	**0.0168**	**3.0000e-005**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**2.2979**	**2.2979**	**2.4000e-004**	**0.0000**	**2.3030**

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	2.2000e-004	3.0000e-004	2.8000e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5173	0.5173	3.0000e-005	0.0000	0.5178
Total	**2.2000e-004**	**3.0000e-004**	**2.8000e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5173**	**0.5173**	**3.0000e-005**	**0.0000**	**0.5178**

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	0.2662	0.4883	2.4231	5.9500e-003	0.4044	6.9800e-003	0.4114	0.1082	6.4400e-003	0.1146	0.0000	412.8226	412.8226	0.0164	0.0000	413.1673
Unmitigated	0.2662	0.4883	2.4231	5.9500e-003	0.4044	6.9800e-003	0.4114	0.1082	6.4400e-003	0.1146	0.0000	412.8226	412.8226	0.0164	0.0000	413.1673

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	728.00	120.12	61.88	1,075,503	1,075,503
Total	728.00	120.12	61.88	1,075,503	1,075,503

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	5.80	5.80	5.80	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

4.4 Fleet Mix

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	199.2845	199.2845	7.8800e-003	1.7900e-003	200.0053
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	199.2845	199.2845	7.8800e-003	1.7900e-003	200.0053
NaturalGas Mitigated	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	53.5629	53.5629	1.0300e-003	9.8000e-004	53.8888
NaturalGas Unmitigated	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	53.5629	53.5629	1.0300e-003	9.8000e-004	53.8888

5.2 Energy by Land Use - NaturalGas

<u>Unmitigated</u>

	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	1.00373e+006	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	53.5629	53.5629	1.0300e-003	9.8000e-004	53.8888
Total		**5.4100e-003**	**0.0492**	**0.0413**	**3.0000e-004**		**3.7400e-003**	**3.7400e-003**		**3.7400e-003**	**3.7400e-003**	**0.0000**	**53.5629**	**53.5629**	**1.0300e-003**	**9.8000e-004**	**53.8888**

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	1.00373e+006	5.4100e-003	0.0492	0.0413	3.0000e-004		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	53.5629	53.5629	1.0300e-003	9.8000e-004	53.8888
Total		**5.4100e-003**	**0.0492**	**0.0413**	**3.0000e-004**		**3.7400e-003**	**3.7400e-003**		**3.7400e-003**	**3.7400e-003**	**0.0000**	**53.5629**	**53.5629**	**1.0300e-003**	**9.8000e-004**	**53.8888**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	789880	199.2845	7.8800e-003	1.7900e-003	200.0053
Total		**199.2845**	**7.8800e-003**	**1.7900e-003**	**200.0053**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	789880	199.2845	7.8800e-003	1.7900e-003	200.0053
Total		**199.2845**	**7.8800e-003**	**1.7900e-003**	**200.0053**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4029	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003
Unmitigated	0.4029	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0475					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003
Total	**0.4029**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**0.0000**	**1.7200e-003**

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					
Consumer Products	0.3554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6300e-003	1.6300e-003	0.0000	0.0000	1.7200e-003
Architectural Coating	0.0475					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4029**	**1.0000e-005**	**8.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**0.0000**	**1.7200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	60.6467	0.5507	0.0134	76.3751
Unmitigated	60.6467	0.5508	0.0135	76.3821

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	16.835 / 0	60.6467	0.5508	0.0135	76.3821
Total		**60.6467**	**0.5508**	**0.0135**	**76.3821**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	16.835 / 0	60.6467	0.5507	0.0134	76.3751
Total		**60.6467**	**0.5507**	**0.0134**	**76.3751**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.9055	1.3537	0.0000	51.3327
Unmitigated	22.9055	1.3537	0.0000	51.3327

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	112.84	22.9055	1.3537	0.0000	51.3327
Total		**22.9055**	**1.3537**	**0.0000**	**51.3327**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	112.84	22.9055	1.3537	0.0000	51.3327
Total		**22.9055**	**1.3537**	**0.0000**	**51.3327**

9.0 Operational Offroad

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

10.0 Vegetation