



**Greenhouse Gas Analysis for the
Centre City Shopping Center Project
Escondido, California**

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A handwritten signature in black ink that reads "Jessica Fleming". The signature is written in a cursive, flowing style.

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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
CEQ	Council on Environmental Quality
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 ₂ E	million metric tons carbon dioxide equivalent
mpg	miles per gallon
MPO	Metropolitan Planning Organizations
MT CO ₂ E	metric tons carbon dioxide equivalent
N ₂ O	Nitrous oxide
RPS	Renewables 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 Centre City Shopping Center Project (project) is located at the southeast corner of the intersection of West Mission Avenue and Centre City Parkway in Escondido, California. The 2.24-acre project site is currently developed with the Palm Tree Motor Lodge and the Wagon Wheel Restaurant. The project would demolish the existing uses on-site and construct a commercial development that would consist of three buildings. Building A would consist of 3,500 square feet of general retail space and a 2,874-square-foot restaurant with a drive-through (6,374 square feet total). Building B would consist of a 2,004-square-foot restaurant/coffee shop with a drive-through, a 2,400-square-foot restaurant without a drive-through, and 1,000 square feet of retail space (5,404 square feet total). Building C would consist of a 4,308-square-foot SuperStar carwash.

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 2016 Title 24 Part 6 (California Energy Code) and Part 11 (California Green Building Standards) requirements. Based on emissions estimates, the project would generate 2,204 metric tons of carbon dioxide equivalent (MT CO₂E) annually. This is a net increase of 1,513 MT CO₂E annually over the existing use. Emissions are projected to be less than the City's 2,500 MT CO₂E 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 Centre City Shopping Center Project (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 (CO₂). Because CO₂ is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH₄) has a shorter atmospheric lifetime than CO₂, it has a 100-year GWP of 25; this means that CH₄ has 25 times more effect on global warming than CO₂ 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 CO₂ (MT CO₂E). CO₂E 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 CO₂E 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 ₂ O)	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 ₂ F ₆	10,000	11,100	8,210
C ₃ F ₈	2,600	8,900	6,640
C ₄ F ₁₀	2,600	9,200	6,870
c-C ₄ F ₈	3,200	9,540	7,110
C ₅ F ₁₂	4,100	8,550	6,350
C ₆ F ₁₄	3,100	7,910	5,890
SF ₆	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2014. GWP = growth warming potential			

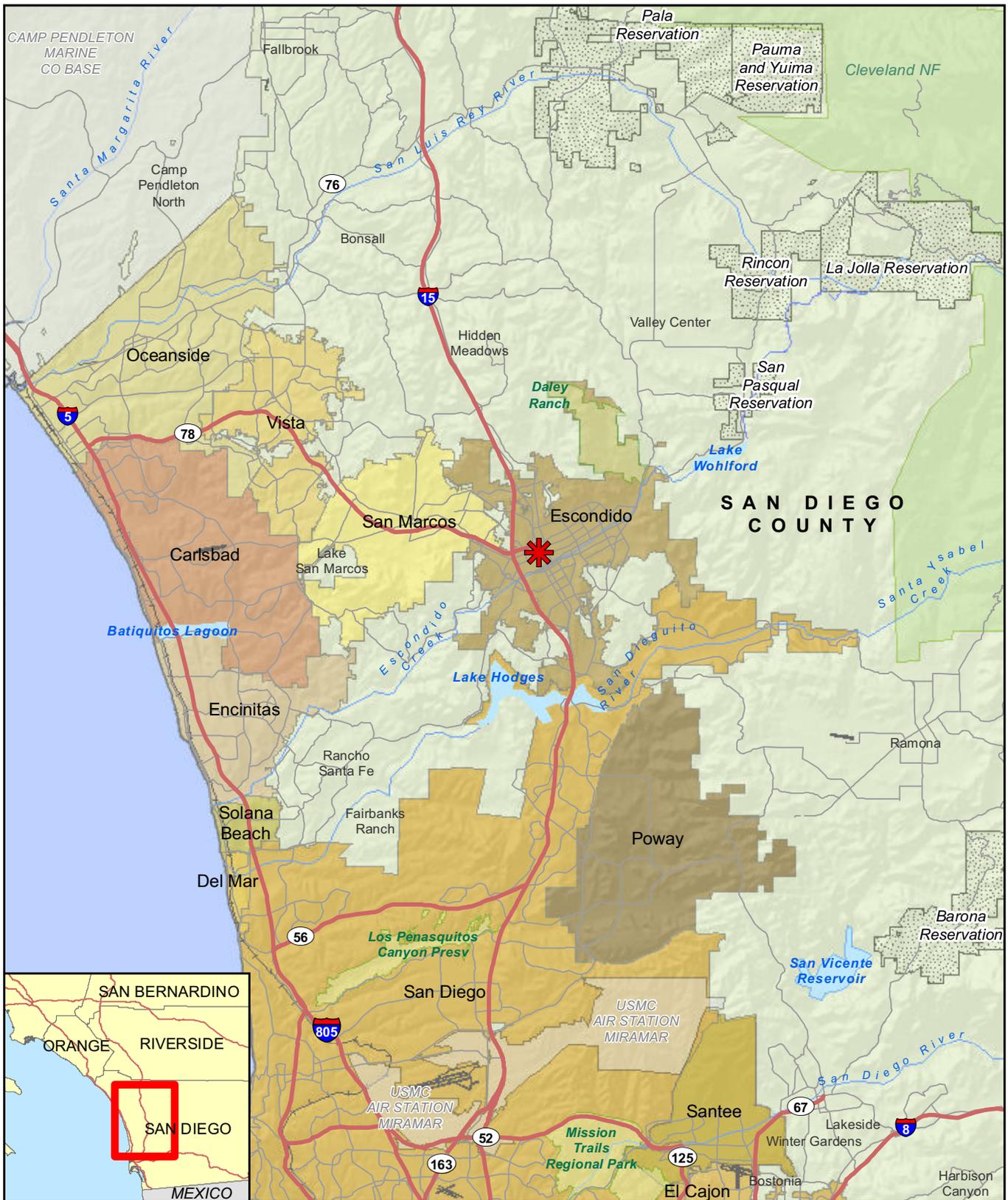
It should be noted that the U.S. EPA and other organizations will update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy 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) CH₄ has a GWP of 21 and N₂O 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. CO₂ 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 CH₄ and N₂O would be emitted from the same project operations.

2.0 Project Description

The project is located at 425 West Mission Avenue, on the southeast corner of the intersection of West Mission Avenue and Centre City Parkway. Figure 1 shows the regional location. The 2.24-acre project site is currently developed with the Palm Tree Motor Lodge and the Wagon Wheel Restaurant. The lodge consists of three buildings: an L-shaped row of 29 units and a lobby; a rectangular building housing 10 units; and a cabana building adjacent to the pool. Figure 2 shows an aerial photograph of the project vicinity.

The project would demolish the existing uses on-site and construct a commercial development that would consist of three buildings. Building A would consist of 3,500 square feet of general retail space and a 2,874-square-foot restaurant with a drive-through (6,374 square feet total). Building B would consist of a 2,004-square-foot restaurant/coffee shop with a drive-through, a 2,400-square-foot restaurant without a drive-through, and 1,000 square feet of retail space (5,404 square feet total). Building C would consist of a 4,308-square-foot SuperStar carwash. The carwash would include a drive-through tunnel and a maximum of 26 vacuum stalls. Figure 3 shows the site plan. Access to the site would be provided from both Centre City Parkway and Mission Avenue. Site access from Centre City Parkway and Mission Avenue would be right-in/right-out only. A northbound right-turn pocket/deceleration lane would be provided at the Centre City Parkway project driveway. The project also includes roadway improvements to create a third northbound through lane on Centre City Parkway. A total of 105 parking stalls would be provided on-site, mostly along the eastern project perimeter.



 Project Location

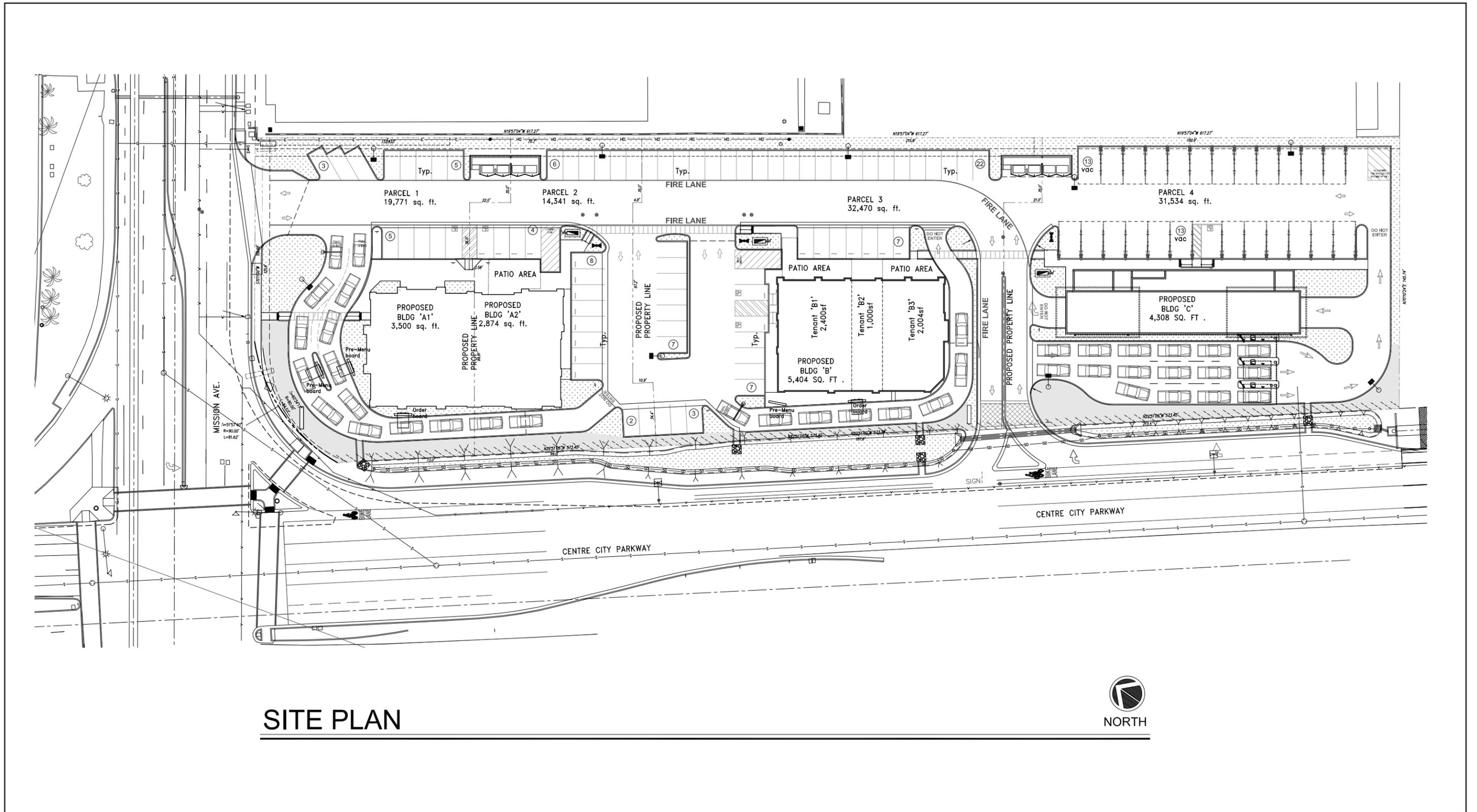
FIGURE 1
Regional Location



 Project Boundary

FIGURE 2

Project Location on Aerial Photograph



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 CO₂ equivalent (MMT CO₂E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2010, and 2014. Although annual GHG inventory is available, these years are highlighted in Table 2 because 1990 is the baseline year for established reduction targets, 2010 corresponds to the same year for which inventory data for the City is available, and 2014 is the most recent data available.

Sector	1990 ¹ Emissions in MMT CO ₂ E (% total) ²	2010 ³ Emissions in MMT CO ₂ E (% total) ²	2014 ³ Emissions in MMT CO ₂ E (% total) ²
Electricity Generation	110.6 (25.9%)	90.6 (20.4%)	88.4 (20.0%)
Transportation	150.7 (35.3%)	166.2 (37.3%)	163.0 (36.9%)
Industrial	103.0 (24.2%)	100.9 (22.7%)	104.2 (23.6%)
Commercial	14.4 (3.4%)	20.2 (4.5%)	21.6 (4.9%)
Residential	29.7 (7.0%)	31.4 (7.1%)	27.4 (6.2%)
Agriculture & Forestry	16.9 (4.0%)	34.9 (7.8%)	36.1 (8.2%)
Not Specified	1.3 (0.3%)	0.8 (0.2%)	0.8 (0.2%)
TOTAL⁴	426.6	445.0	441.5

SOURCE: CARB 2007 and 2016a.
¹1990 data was obtained from the CARB 2007 source and are based on IPCC second assessment report global warming potential (GWPs). The revised calculation, which uses the scientifically updated IPCC fifth assessment report GWPs, is 431 million metric tons of CO₂ equivalent (MMT CO₂E).
²Percentages may not total 100 due to rounding.
³2010 and 2014 data was retrieved from the CARB 2016a source.
⁴Totals may vary due to independent rounding.

As shown in Table 2, statewide GHG source emissions totaled approximately 427 MMT CO₂E in 1990, 445 MMT CO₂E in 2010, and 442 MMT CO₂E in 2014. 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. As shown, transportation-related emissions consistently contribute to the most GHG 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 CO₂E	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 developed with a 39-room motel and a restaurant. However, the restaurant is currently closed and the motel currently does not generate a significant number of occupants. Current sources of on-site GHG emissions are associated with the vehicle use, energy use, water use, area sources (landscaping and other equipment use), and waste disposal practices associated with the motel operations. Emissions associated with the existing uses were calculated using the CalEEMod 2016.3.1 released in September 2016 by the California Air Pollution Control Officers Association (CAPCOA; 2016), and the results are summarized in Table 4. The CalEEMod output is contained in Attachment 1. Vehicle emissions were calculated using a trip generation rate of 9 trips per occupied room (San Diego Association of Governments [SANDAG] 2002) and an occupancy rate of 50 percent.

Table 4 Existing Annual GHG Emissions (MT CO₂E)	
Emission Source	GHG Emissions
Vehicles	119
Energy Use	556
Area Sources	0
Water Use	5
Solid Waste Disposal	11
TOTAL	691

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. In June 2012, the Council on Environmental Quality (CEQ) revised the Federal Greenhouse Gas Accounting and Reporting Guidance originally issued in October 2010. The CEQ guidance identifies ways in which Federal agencies can improve consideration of GHG emissions and climate change for Federal actions. The guidance states that National Environmental Policy Act documents should provide decision makers with relevant and timely information and should consider (1) GHG emissions of a Proposed Action and alternative actions, and (2) the relationship of climate change effects to a Proposed Action or alternatives. Specifically, if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 MT CO₂E GHG emissions on an annual basis, agencies should consider this as an indicator that a quantitative assessment may be meaningful to decision makers and the public (CEQ 2012).

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 Senate Bill 32 – California Global Warming Solutions Act: Emissions Limit

In August 2016, the California Legislature approved Senate Bill (SB) 32; and in September 2016, it was signed by the governor. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. SB 32 is tied to AB 197, which would establish a legislative oversight committee to which the chair of CARB would report once a year, and would add two members of the Legislature to the air board. Additionally, in implementing the 40 percent reduction target, AB 197 would require CARB to prioritize emissions reductions to consider the social costs of the emissions of GHGs. AB 197 defines “social costs” to mean “an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of GHG emission per year.”

3.2.2.4 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 CO₂E in 1990 and would reach 596 MMT CO₂E by 2020 under a BAU condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO₂E (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 2014). 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 2014). 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 2014).

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 2014). 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 2014). 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.

In January 2017, CARB released proposed *The 2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target* (Proposed Second Update to the Scoping Plan; CARB 2017). The comment period for the Proposed Second Update to the Scoping Plan ended in March 2017. The Proposed Second Update to the Scoping Plan identifies State strategy for achieving the State’s 2030 interim reduction target codified by SB 32. The plan proposes to build on existing programs such as the Cap-and-Trade Regulation, Low Carbon Fuel Standard (LCFS), Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy, and the Short-Lived Climate Pollutant Reduction Strategy. It also proposes further strategies to reduce waste emissions through cogeneration, reduce GHG emissions from the refinery sector by 20 percent, and new policies to address GHG emissions from natural and working lands.

3.2.2.5 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 CO₂E 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.

3.2.2.6 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 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 2016b).

3.2.2.7 Regional Emissions Targets – Senate Bill 375

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.

3.2.2.8 Renewables Portfolio Standard

The 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.

3.2.2.9 Assembly Bill 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal.

Additionally, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

3.2.2.10 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 California Energy Commission (CEC). By reducing California's energy consumption, emissions of statewide GHGs may also be reduced. 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 previous Energy Code, known as the 2013 Energy Code, became effective July 1, 2014. The most current version of the Energy Code, the 2016 Energy Code became, effective January 1, 2017.

As identified by the CEC, the 2013 version, compared to the 2008 Title 24 requirements, results in 23.3 percent reduction in electricity demand and a 3.8 percent reduction in natural gas use from multi-family developments, and a 21.8 percent reduction in electricity demand and a 16.8 percent reduction in natural gas demand from non-residential developments (CEC 2013). Until the 2016 Title 24 requirements take effect, the CEC cannot complete a comprehensive study characterizing the resulting electricity demand and natural gas use reductions. However, preliminary CEC estimates indicate that residences built consistent with 2016 Title 24 requirements will be 28 percent more energy efficient than homes built consistent with 2013 Title 24 requirements and non-residential uses built consistent with 2016 Title 24 requirements will be 5 percent more energy efficient than those built consistent with 2013 Title 24 requirements (CEC 2015).

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).

3.2.3.3 Escondido Municipal Code

Section 33-924(7) of the Escondido Municipal Code also addresses GHG emissions. It states that “the following incremental GHG emissions are generally not considered significant:

- A. Projects that do not generate more than two thousand five hundred (2,500) metric tons (MT) of carbon dioxide equivalent (CO₂e) greenhouse gas (GHG) emissions, or
- B. Projects generating more than two thousand five hundred (2,500) MT CO₂e that have achieved one hundred (100) points implementing reduction measures outlined in the Escondido Climate Action Plan (E-CAP) screening tables, adopted by separate resolution, or
- C. Projects generating more than two thousand five hundred (2,500) MT CO₂e that demonstrate through a project specific analysis quantifying GHG emissions that through mitigation and design features, the project reduces GHG emissions consistent with the E-CAP”

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 CO₂E to determine the need for additional analysis of project emissions. Where a project's emission are projected to exceed 2,500 MT CO₂E, further analysis with respect to the City's GHG Guidance is required.

The 2,500 MT CO₂E threshold is based on the 90th percentile capture rate concept. The City determined the GHG emission amount allowed by a project such that 90 percent of the emissions on average from all projects would exceed that level and be "captured" by the Screening Tables or alternate emission analysis method. In determining this level of emissions, the City used an analysis completed by the County of San Diego that reviewed projects within San Diego County (both incorporated and unincorporated areas) and used a 90th percentile capture rate of emissions. Note that the County of San Diego's database of projects used in the San Diego County analysis is a countywide database and includes emissions within Escondido. This method is considered relevant because the database closely reflects projects within the City in determining threshold levels of emissions.

Projects that exceed the 2,500 MT CO₂E 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 2016.3.1 released in September 2016 by CAPCOA (CAPCOA 2016). 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), energy (electricity and natural gas), 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 CO₂E. Emissions were calculated for project operation in year 2020.

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 2016). 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 through 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 May 2017 and last until December 2017. 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 2014 Emission Factors model.

According to the project traffic report, the project would generate 5,931 average daily trips (Kimley-Horn 2017). Based on regional data compiled by CARB as part of the emission factor model, the average regional trip length for all trips in San Diego County is 5.8 miles (CARB 2011b).

4.2.3 Energy 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 2016.3.1 is based on the 2013 Title 24 energy code (Part 6 of the Building Code). The project would be subject to the 2016 Title 24 energy code. As discussed in Section 3.2.2.10, preliminary CEC estimates indicate that non-residential uses built consistent with 2016 Title 24 requirements will be 5 percent more energy efficient than those built consistent with 2013 Title 24 requirements (CEC 2015).

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 CO₂, CH₄, and N₂O per kilowatt-hour) are used in the calculations of GHG emissions. As discussed, the state mandate for renewable energy is 33 percent by 2020, and SDG&E has already procured 35.2 percent. 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 25.0 percent. SDG&E energy intensity factors are shown in Table 5.

GHG	2009 (lbs/MWh)	2020 (lbs/MWh)
Carbon Dioxide (CO ₂)	720.49	540.37
Methane (CH ₄)	0.029	0.022
Nitrous Oxide (N ₂ O)	0.006	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 2011c).

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 CH₄ and N₂O.

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 2016). 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 2016).

The car wash would also use water. Based on Water Use in the Professional Car Wash Industry, car washes similar to the one that is proposed use an average of 28 gallons of fresh water per vehicle (International Carwash Association 2002). The carwash would generate 900 trips per day (Kimley-Horn 2017). At 28 gallons per vehicle, it was calculated that the car wash would use 25,200 gallons per day. This water consumption was included in the GHG emission calculations associated with water use.

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 25.0 percent (see Table 5).

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. According to a CalRecycle report to the Legislature, as of 2013 California has achieved a statewide 50 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2015). However, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020. Therefore, to account for the continuing actions of recycling requirements under state law (i.e., AB 341), a 25 percent solid waste diversion rate was included in the model.

4.2.7 GHG Emissions Modeling Summary

Table 6 provides a summary of the calculation methodology for each emission source calculated.

Table 6 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 EMFAC 2014 vehicle emission factors for year 2020.
Energy	Energy emissions were calculated based on 2016 Title 24 Energy Code standards. Additionally, to account for the effects of RPS through 2020, the SDG&E energy-intensity factors included in CalEEMod were reduced by 25.0 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 25.0 percent. Water use associated with the car wash was included in the emission calculation.
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. To account for the continuing actions of recycling requirements under state law (i.e., AB 341), a 25 percent solid waste diversion rate was included in the model.

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 CO₂E annual GHG would not contribute considerably to cumulative climate change impacts. For project’s that exceed the 2,500 MT CO₂E 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 7

summarizes the estimated project emissions. The complete model outputs for the project are included in Attachment 2. Note that the emissions summarized in Table 7 do not take into account the existing GHG that would no longer occur due to the demolition of the existing uses on-site.

Table 7 Project GHG Emissions (MT CO₂E per Year)	
Emission Source	Project GHG Emissions
Vehicles	1,930
Energy Use	174
Area Sources	0
Water Use	54
Solid Waste Disposal	40
Construction	8
TOTAL	2,204
NOTE: Totals may vary due to independent rounding.	

5.1.2 Significance of Impacts

As demonstrated, the project would result in a total of 2,204 MT CO₂E annually. This is a net increase of 1,513 MT CO₂E annually over the existing use. Emissions are projected to be less than the 2,500 MT CO₂E screening level. By emitting less than 2,500 MT CO₂E 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 2030 GHG emission policy of EO B-30-15, to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, was codified by the adopted of SB 32. The 2050 goal of EO S-3-05 has not been codified by the Legislature.

As illustrated above, the project would emit less than 2,500 MT CO₂E annually and would not interfere with the City achieving the GHG reduction goals outlined in the E-CAP. As discussed in Section 4.1, the 2,500 MT CO₂E threshold is based on the 90th percentile capture rate concept. Following rationale presented in CAPCOA Guidance (CAPCOA 2008), aggregate emissions from all projects with individual annual emissions that do not exceed the 90th percentile capture rate, would not impede achievement of the state reduction targets and would therefore be less than cumulatively considerable. 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 and 2050.

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 SB 32 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

The City has determined that new development projects emitting less than 2,500 MT CO₂E annual GHG would not contribute considerably to cumulative climate change impacts. For project's that exceed the 2,500 MT CO₂E screening threshold, further analysis with respect to the City's GHG Guidance is required. The emissions sources include construction (off-road vehicles); mobile (on-road vehicles); area sources (landscape maintenance equipment); water and wastewater; and solid waste. The primary sources of direct and indirect GHG emissions have been calculated. As summarized in Table 7, the project would result in a total of 2,204 MT CO₂E per year. This is a net increase of 1,513 MT CO₂E annually over the existing use. Emissions are projected to be less than the 2,500 MT CO₂E screening criterion. By emitting less than 2,500 MT CO₂E, 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. As the threshold is based on the 2020 and 2050 state reduction targets, projects that achieve emissions that do not exceed the 90th percentile capture rate also

would not impede achievement of the 2030 interim reduction target codified by AB 32 and SB 32, respectively. 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.

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ATTACHMENTS

ATTACHMENT 1
CalEEMod Output–Existing Emissions

8478 425 W Mission Avenue - Existing Motel 2017 - San Diego County APCD Air District, Annual

8478 425 W Mission Avenue - Existing Motel 2017
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
Motel	39.00	Room	2.24	76,447.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	566.31	CH4 Intensity (lb/MW hr)	0.023	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS - SDG&E currently at 31.6%
 CalEEMod accounts for 10.2%
 Additional 21.4% reduction applied
 (566.31, 0.023, 0.005)
 Land Use - 2.24 acres
 Construction Phase - Existing use - no construction
 Vehicle Trips - 5.8 mile trip length
 9 trips/occupied room - 50% occupancy
 Energy Use -
 Area Coating - SDAPCD Rule 67.0.1

8478 425 W Mission Avenue - Existing Motel 2017 - San Diego County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblLandUse	LotAcreage	1.75	2.24
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	720.49	566.31
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2017
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CNW_TL	7.30	5.80
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	ST_TR	5.63	4.50
tblVehicleTrips	SU_TR	5.63	4.50
tblVehicleTrips	WD_TR	5.63	4.50

2.0 Emissions Summary

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004
Energy	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	553.4795	553.4795	0.0171	7.2700e-003	556.0746
Mobile	0.0598	0.2155	0.5719	1.3000e-003	0.0944	1.7700e-003	0.0962	0.0253	1.6700e-003	0.0270	0.0000	119.0470	119.0470	8.3500e-003	0.0000	119.2558
Waste						0.0000	0.0000		0.0000	0.0000	4.3339	0.0000	4.3339	0.2561	0.0000	10.7370
Water						0.0000	0.0000		0.0000	0.0000	0.3139	3.6227	3.9366	0.0324	7.9000e-004	4.9825
Total	0.4237	0.4463	0.7662	2.6800e-003	0.0944	0.0193	0.1137	0.0253	0.0192	0.0445	4.6477	676.1499	680.7976	0.3139	8.0600e-003	691.0506

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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	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004
Energy	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	553.4795	553.4795	0.0171	7.2700e-003	556.0746
Mobile	0.0598	0.2155	0.5719	1.3000e-003	0.0944	1.7700e-003	0.0962	0.0253	1.6700e-003	0.0270	0.0000	119.0470	119.0470	8.3500e-003	0.0000	119.2558
Waste						0.0000	0.0000		0.0000	0.0000	4.3339	0.0000	4.3339	0.2561	0.0000	10.7370
Water						0.0000	0.0000		0.0000	0.0000	0.3139	3.6227	3.9366	0.0324	7.9000e-004	4.9825
Total	0.4237	0.4463	0.7662	2.6800e-003	0.0944	0.0193	0.1137	0.0253	0.0192	0.0445	4.6477	676.1499	680.7976	0.3139	8.0600e-003	691.0506

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	1/25/2017	1/24/2017	5	10	
2	Building Construction	Building Construction	1/25/2017	1/24/2017	5	220	
3	Demolition	Demolition	1/25/2017	1/24/2017	5	20	
4	Grading	Grading	1/25/2017	1/24/2017	5	6	
5	Paving	Paving	1/25/2017	1/24/2017	5	10	
6	Site Preparation	Site Preparation	1/25/2017	1/24/2017	5	3	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 114,672; Non-Residential Outdoor: 38,224; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

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3.7 Site Preparation - 2017

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0598	0.2155	0.5719	1.3000e-003	0.0944	1.7700e-003	0.0962	0.0253	1.6700e-003	0.0270	0.0000	119.0470	119.0470	8.3500e-003	0.0000	119.2558
Unmitigated	0.0598	0.2155	0.5719	1.3000e-003	0.0944	1.7700e-003	0.0962	0.0253	1.6700e-003	0.0270	0.0000	119.0470	119.0470	8.3500e-003	0.0000	119.2558

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Motel	175.50	175.50	175.50	250,354	250,354
Total	175.50	175.50	175.50	250,354	250,354

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Motel	5.80	5.80	5.80	19.00	62.00	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Motel	0.565638	0.047157	0.192136	0.119786	0.020441	0.005692	0.014544	0.021692	0.001860	0.002252	0.006508	0.000737	0.001558

5.0 Energy Detail

Historical Energy Use: Y

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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	302.2203	302.2203	0.0123	2.6700e-003	303.3223
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	302.2203	302.2203	0.0123	2.6700e-003	303.3223
NaturalGas Mitigated	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523
NaturalGas Unmitigated	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Motel	4.70842e+006	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523
Total		0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas 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					
Motel	4.70842e+006	0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523
Total		0.0254	0.2308	0.1939	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	251.2592	251.2592	4.8200e-003	4.6100e-003	252.7523

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Motel	1.17653e+006	302.2203	0.0123	2.6700e-003	303.3223
Total		302.2203	0.0123	2.6700e-003	303.3223

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Motel	1.17653e+006	302.2203	0.0123	2.6700e-003	303.3223
Total		302.2203	0.0123	2.6700e-003	303.3223

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	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004
Unmitigated	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004

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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	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004
Total	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0399					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2986					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004
Total	0.3385	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.5000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.9366	0.0324	7.9000e-004	4.9825
Unmitigated	3.9366	0.0324	7.9000e-004	4.9825

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Motel	0.989304 / 0.109923	3.9366	0.0324	7.9000e-004	4.9825
Total		3.9366	0.0324	7.9000e-004	4.9825

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Motel	0.989304 / 0.109923	3.9366	0.0324	7.9000e-004	4.9825
Total		3.9366	0.0324	7.9000e-004	4.9825

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.3339	0.2561	0.0000	10.7370
Unmitigated	4.3339	0.2561	0.0000	10.7370

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Motel	21.35	4.3339	0.2561	0.0000	10.7370
Total		4.3339	0.2561	0.0000	10.7370

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Motel	21.35	4.3339	0.2561	0.0000	10.7370
Total		4.3339	0.2561	0.0000	10.7370

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

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

11.0 Vegetation

ATTACHMENT 2
CalEEMod Output–Project Emissions

8478 425 W Mission Avenue
GHG Emissions Summary

Source	CalEEMod Output	2016 Title 24
Vehicles	1,930	1,930
Energy	183	174
Area	0	0
Water	54	54
Waste	40	40
Construction	8	8
TOTAL	2,213	2,204

Existing Emissions	Net Increase
119	1,810
556	-382
0	0
5	49
11	29
0	8
691	1,513

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8478 425 W Mission Ave - Project 2020
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
Parking Lot	1.88	Acre	1.87	81,892.80	0
Fast Food Restaurant with Drive Thru	4.88	1000sqft	0.11	4,878.00	0
Fast Food Restaurant w/o Drive Thru	2.40	1000sqft	0.06	2,400.00	0
Automobile Care Center	4.31	1000sqft	0.10	4,308.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	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/MW hr)	540.37	CH4 Intensity (lb/MW hr)	0.022	N2O Intensity (lb/MW hr)	0.005

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - RPS status - 33% goal for 2020. SDGE has already achieved 35.2%

CalEEMod accounts for 10.2%

Additional 25% reduction applied

(540.37, 0.022, 0.005)

Land Use - 2.24 acres

Construction Phase - May - December 2017

Demolition -

Grading -

Architectural Coating - SDAPCD Rule 67.0.1

Vehicle Trips - Car Wash - 900 trips (208.91/ksf)

Fast food with drive-through - 3,171 trips (650/ksf)

Fast food without drive-through - 1,680 trips (700/ksf)

Retail - 180 trips (40/ksf)

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - SDAPCD Rule 67

Energy Use - Default

Water And Wastewater - CalGreen 20% Indoor Water Reduction

324,391.656 + 9,198,000 = 9,522,391.656

582,784.728

1,184,995.616

266,661.08

Water Mitigation -

Waste Mitigation -

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00

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tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblConstructionPhase	NumDays	10.00	21.00
tblConstructionPhase	NumDays	220.00	88.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	21.00
tblConstructionPhase	NumDays	10.00	21.00
tblConstructionPhase	NumDays	3.00	22.00
tblConstructionPhase	PhaseEndDate	1/29/2018	12/29/2017
tblConstructionPhase	PhaseStartDate	12/30/2017	12/1/2017
tblLandUse	LotAcreage	1.88	1.87
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	540.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	5.80
tblVehicleTrips	CNW_TL	7.30	5.80
tblVehicleTrips	CNW_TL	7.30	5.80
tblVehicleTrips	CNW_TL	7.30	5.80

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tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	5.80
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	5.80
tblVehicleTrips	ST_TR	23.72	208.91
tblVehicleTrips	SU_TR	11.88	208.91
tblVehicleTrips	WD_TR	23.72	208.91
tblVehicleTrips	WD_TR	496.12	650.00
tblVehicleTrips	WD_TR	716.00	700.00
tblVehicleTrips	WD_TR	44.32	40.00
tblWater	IndoorWaterUseRate	405,489.57	9,522,391.66
tblWater	IndoorWaterUseRate	1,481,244.52	1,184,995.62
tblWater	IndoorWaterUseRate	728,480.91	582,784.73
tblWater	IndoorWaterUseRate	333,326.35	266,661.08
tblWater	OutdoorWaterUseRate	248,525.87	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2017	7-31-2017	0.9728	0.9728
2	8-1-2017	9-30-2017	0.6329	0.6329
		Highest	0.9728	0.9728

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	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	7.1700e-003	0.0652	0.0548	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	181.8914	181.8914	5.8800e-003	2.3300e-003	182.7319
Mobile	1.3549	4.9306	10.9604	0.0266	1.9733	0.0285	2.0018	0.5285	0.0267	0.5552	0.0000	2,448.2974	2,448.2974	0.1701	0.0000	2,452.5496
Waste						0.0000	0.0000		0.0000	0.0000	21.3242	0.0000	21.3242	1.2602	0.0000	52.8298
Water						0.0000	0.0000		0.0000	0.0000	3.6665	37.8246	41.4911	0.3781	9.2400e-003	53.6981
Total	1.4397	4.9959	11.0154	0.0269	1.9733	0.0335	2.0068	0.5285	0.0317	0.5602	24.9907	2,668.0136	2,693.0043	1.8143	0.0116	2,741.8098

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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	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Energy	7.1700e-003	0.0652	0.0548	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	181.8914	181.8914	5.8800e-003	2.3300e-003	182.7319
Mobile	1.2889	4.5009	9.5439	0.0209	1.4733	0.0230	1.4964	0.3946	0.0216	0.4162	0.0000	1,926.0397	1,926.0397	0.1460	0.0000	1,929.6892
Waste						0.0000	0.0000		0.0000	0.0000	15.9932	0.0000	15.9932	0.9452	0.0000	39.6224
Water						0.0000	0.0000		0.0000	0.0000	3.6665	37.8246	41.4911	0.3781	9.2400e-003	53.6981
Total	1.3737	4.5661	9.5988	0.0213	1.4733	0.0280	1.5013	0.3946	0.0265	0.4211	19.6596	2,145.7560	2,165.4156	1.4752	0.0116	2,205.7419

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	4.58	8.60	12.86	21.08	25.34	16.42	25.19	25.34	16.28	24.82	21.33	19.57	19.59	18.69	0.00	19.55

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2017	5/31/2017	5	23	
2	Site Preparation	Site Preparation	6/1/2017	6/30/2017	5	22	
3	Grading	Grading	7/1/2017	7/31/2017	5	21	
4	Building Construction	Building Construction	8/1/2017	11/30/2017	5	88	
5	Paving	Paving	12/1/2017	12/29/2017	5	21	
6	Architectural Coating	Architectural Coating	12/1/2017	12/29/2017	5	21	

Acres of Grading (Site Preparation Phase): 33

Acres of Grading (Grading Phase): 10.5

Acres of Paving: 1.87

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,129; Non-Residential Outdoor: 8,043; Striped Parking Area: 4,914 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	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

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	108.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	40.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	1.8000e-003	0.0000	1.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0318	0.3077	0.1789	2.8000e-004		0.0190	0.0190		0.0177	0.0177	0.0000	25.2618	25.2618	6.3900e-003	0.0000	25.4215
Total	0.0318	0.3077	0.1789	2.8000e-004	0.0119	0.0190	0.0308	1.8000e-003	0.0177	0.0195	0.0000	25.2618	25.2618	6.3900e-003	0.0000	25.4215

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3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9000e-004	0.0191	3.8900e-003	4.0000e-005	9.2000e-004	1.1000e-004	1.0300e-003	2.5000e-004	1.0000e-004	3.6000e-004	0.0000	4.2923	4.2923	3.9000e-004	0.0000	4.3020
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	7.1000e-004	5.7000e-004	5.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1872	1.1872	4.0000e-005	0.0000	1.1883
Total	1.3000e-003	0.0197	9.3800e-003	5.0000e-005	2.1200e-003	1.2000e-004	2.2400e-003	5.7000e-004	1.1000e-004	6.9000e-004	0.0000	5.4795	5.4795	4.3000e-004	0.0000	5.4903

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					0.0119	0.0000	0.0119	1.8000e-003	0.0000	1.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0318	0.3077	0.1789	2.8000e-004		0.0190	0.0190		0.0177	0.0177	0.0000	25.2618	25.2618	6.3900e-003	0.0000	25.4215
Total	0.0318	0.3077	0.1789	2.8000e-004	0.0119	0.0190	0.0308	1.8000e-003	0.0177	0.0195	0.0000	25.2618	25.2618	6.3900e-003	0.0000	25.4215

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3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.9000e-004	0.0191	3.8900e-003	4.0000e-005	9.2000e-004	1.1000e-004	1.0300e-003	2.5000e-004	1.0000e-004	3.6000e-004	0.0000	4.2923	4.2923	3.9000e-004	0.0000	4.3020
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	7.1000e-004	5.7000e-004	5.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1872	1.1872	4.0000e-005	0.0000	1.1883
Total	1.3000e-003	0.0197	9.3800e-003	5.0000e-005	2.1200e-003	1.2000e-004	2.2400e-003	5.7000e-004	1.1000e-004	6.9000e-004	0.0000	5.4795	5.4795	4.3000e-004	0.0000	5.4903

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0175	0.0000	0.0175	1.8900e-003	0.0000	1.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0235	0.2940	0.1586	2.7000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	25.0315	25.0315	7.6700e-003	0.0000	25.2232
Total	0.0235	0.2940	0.1586	2.7000e-004	0.0175	0.0122	0.0297	1.8900e-003	0.0112	0.0131	0.0000	25.0315	25.0315	7.6700e-003	0.0000	25.2232

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3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.2300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6988	0.6988	3.0000e-005	0.0000	0.6995
Total	4.2000e-004	3.4000e-004	3.2300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6988	0.6988	3.0000e-005	0.0000	0.6995

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					0.0175	0.0000	0.0175	1.8900e-003	0.0000	1.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0235	0.2940	0.1586	2.7000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	25.0315	25.0315	7.6700e-003	0.0000	25.2232
Total	0.0235	0.2940	0.1586	2.7000e-004	0.0175	0.0122	0.0297	1.8900e-003	0.0112	0.0131	0.0000	25.0315	25.0315	7.6700e-003	0.0000	25.2232

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3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	3.4000e-004	3.2300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6988	0.6988	3.0000e-005	0.0000	0.6995
Total	4.2000e-004	3.4000e-004	3.2300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6988	0.6988	3.0000e-005	0.0000	0.6995

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0688	0.0000	0.0688	0.0354	0.0000	0.0354	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2747	0.1131	2.2000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	20.1195	20.1195	6.1600e-003	0.0000	20.2736
Total	0.0244	0.2747	0.1131	2.2000e-004	0.0688	0.0136	0.0824	0.0354	0.0125	0.0479	0.0000	20.1195	20.1195	6.1600e-003	0.0000	20.2736

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3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	4.0000e-004	3.8600e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8338	0.8338	3.0000e-005	0.0000	0.8346
Total	5.0000e-004	4.0000e-004	3.8600e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8338	0.8338	3.0000e-005	0.0000	0.8346

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					0.0688	0.0000	0.0688	0.0354	0.0000	0.0354	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2747	0.1131	2.2000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	20.1194	20.1194	6.1600e-003	0.0000	20.2736
Total	0.0244	0.2747	0.1131	2.2000e-004	0.0688	0.0136	0.0824	0.0354	0.0125	0.0479	0.0000	20.1194	20.1194	6.1600e-003	0.0000	20.2736

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3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	4.0000e-004	3.8600e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8338	0.8338	3.0000e-005	0.0000	0.8346
Total	5.0000e-004	4.0000e-004	3.8600e-003	1.0000e-005	8.4000e-004	1.0000e-005	8.5000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.8338	0.8338	3.0000e-005	0.0000	0.8346

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1470	1.0133	0.7177	1.1000e-003		0.0647	0.0647		0.0619	0.0619	0.0000	93.7079	93.7079	0.0209	0.0000	94.2297
Total	0.1470	1.0133	0.7177	1.1000e-003		0.0647	0.0647		0.0619	0.0619	0.0000	93.7079	93.7079	0.0209	0.0000	94.2297

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3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1008	0.0287	2.0000e-004	4.6700e-003	9.3000e-004	5.6100e-003	1.3500e-003	8.9000e-004	2.2400e-003	0.0000	18.9074	18.9074	1.6300e-003	0.0000	18.9481
Worker	8.3100e-003	6.7400e-003	0.0647	1.5000e-004	0.0141	1.1000e-004	0.0142	3.7500e-003	1.0000e-004	3.8500e-003	0.0000	13.9763	13.9763	5.2000e-004	0.0000	13.9895
Total	0.0126	0.1075	0.0933	3.5000e-004	0.0188	1.0400e-003	0.0198	5.1000e-003	9.9000e-004	6.0900e-003	0.0000	32.8838	32.8838	2.1500e-003	0.0000	32.9375

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	0.1470	1.0133	0.7177	1.1000e-003		0.0647	0.0647		0.0619	0.0619	0.0000	93.7078	93.7078	0.0209	0.0000	94.2296
Total	0.1470	1.0133	0.7177	1.1000e-003		0.0647	0.0647		0.0619	0.0619	0.0000	93.7078	93.7078	0.0209	0.0000	94.2296

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3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2600e-003	0.1008	0.0287	2.0000e-004	4.6700e-003	9.3000e-004	5.6100e-003	1.3500e-003	8.9000e-004	2.2400e-003	0.0000	18.9074	18.9074	1.6300e-003	0.0000	18.9481
Worker	8.3100e-003	6.7400e-003	0.0647	1.5000e-004	0.0141	1.1000e-004	0.0142	3.7500e-003	1.0000e-004	3.8500e-003	0.0000	13.9763	13.9763	5.2000e-004	0.0000	13.9895
Total	0.0126	0.1075	0.0933	3.5000e-004	0.0188	1.0400e-003	0.0198	5.1000e-003	9.9000e-004	6.0900e-003	0.0000	32.8838	32.8838	2.1500e-003	0.0000	32.9375

3.6 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	0.0174	0.1751	0.1282	1.9000e-004		0.0109	0.0109		9.9900e-003	9.9900e-003	0.0000	17.1674	17.1674	5.1600e-003	0.0000	17.2965
Paving	2.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0199	0.1751	0.1282	1.9000e-004		0.0109	0.0109		9.9900e-003	9.9900e-003	0.0000	17.1674	17.1674	5.1600e-003	0.0000	17.2965

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3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	6.0000e-004	5.7900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2507	1.2507	5.0000e-005	0.0000	1.2519
Total	7.4000e-004	6.0000e-004	5.7900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2507	1.2507	5.0000e-005	0.0000	1.2519

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	0.0174	0.1751	0.1282	1.9000e-004		0.0109	0.0109		9.9900e-003	9.9900e-003	0.0000	17.1674	17.1674	5.1600e-003	0.0000	17.2964
Paving	2.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0199	0.1751	0.1282	1.9000e-004		0.0109	0.0109		9.9900e-003	9.9900e-003	0.0000	17.1674	17.1674	5.1600e-003	0.0000	17.2964

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3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	6.0000e-004	5.7900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2507	1.2507	5.0000e-005	0.0000	1.2519
Total	7.4000e-004	6.0000e-004	5.7900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2507	1.2507	5.0000e-005	0.0000	1.2519

3.7 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	0.0953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6880
Total	0.0988	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6880

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3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.2000e-004	3.0900e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6671	0.6671	3.0000e-005	0.0000	0.6677
Total	4.0000e-004	3.2000e-004	3.0900e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6671	0.6671	3.0000e-005	0.0000	0.6677

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	0.0953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6880
Total	0.0988	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6880

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3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.2000e-004	3.0900e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6671	0.6671	3.0000e-005	0.0000	0.6677
Total	4.0000e-004	3.2000e-004	3.0900e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6671	0.6671	3.0000e-005	0.0000	0.6677

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Increase Transit Accessibility

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2889	4.5009	9.5439	0.0209	1.4733	0.0230	1.4964	0.3946	0.0216	0.4162	0.0000	1,926.0397	1,926.0397	0.1460	0.0000	1,929.6892
Unmitigated	1.3549	4.9306	10.9604	0.0266	1.9733	0.0285	2.0018	0.5285	0.0267	0.5552	0.0000	2,448.2974	2,448.2974	0.1701	0.0000	2,452.5496

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	900.40	900.40	900.40	650,740	485,866
Fast Food Restaurant with Drive Thru	3,172.00	3,523.51	2648.47	2,333,143	1,742,008
Fast Food Restaurant w/o Drive Thru	1,680.00	1,670.40	1200.00	2,055,022	1,534,354
Parking Lot	0.00	0.00	0.00		
Strip Mall	180.00	189.18	91.94	196,845	146,971
Total	5,932.40	6,283.49	4,840.81	5,235,750	3,909,199

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Automobile Care Center	5.80	5.80	5.80	33.00	48.00	19.00	21	51	28
Fast Food Restaurant with Drive	5.80	5.80	5.80	2.20	78.80	19.00	29	21	50
Fast Food Restaurant w/o Drive	5.80	5.80	5.80	1.50	79.50	19.00	51	37	12
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	5.80	5.80	5.80	16.60	64.40	19.00	45	40	15

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant w/o Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Automobile Care Center	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

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	110.8931	110.8931	4.5100e-003	1.0300e-003	111.3117
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	110.8931	110.8931	4.5100e-003	1.0300e-003	111.3117
NaturalGas Mitigated	7.1700e-003	0.0652	0.0548	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	70.9983	70.9983	1.3600e-003	1.3000e-003	71.4202
NaturalGas Unmitigated	7.1700e-003	0.0652	0.0548	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	70.9983	70.9983	1.3600e-003	1.3000e-003	71.4202

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	49929.7	2.7000e-004	2.4500e-003	2.0600e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.6644	2.6644	5.0000e-005	5.0000e-005	2.6803
Fast Food Restaurant w/o Drive Thru	418944	2.2600e-003	0.0205	0.0173	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.3565	22.3565	4.3000e-004	4.1000e-004	22.4893
Fast Food Restaurant with Drive Thru	851504	4.5900e-003	0.0417	0.0351	2.5000e-004		3.1700e-003	3.1700e-003		3.1700e-003	3.1700e-003	0.0000	45.4395	45.4395	8.7000e-004	8.3000e-004	45.7095
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	10080	5.0000e-005	4.9000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5379	0.5379	1.0000e-005	1.0000e-005	0.5411
Total		7.1700e-003	0.0652	0.0548	3.8000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	70.9983	70.9983	1.3600e-003	1.3000e-003	71.4202

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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					
Automobile Care Center	49929.7	2.7000e-004	2.4500e-003	2.0600e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.6644	2.6644	5.0000e-005	5.0000e-005	2.6803
Fast Food Restaurant w/o Drive Thru	418944	2.2600e-003	0.0205	0.0173	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.3565	22.3565	4.3000e-004	4.1000e-004	22.4893
Fast Food Restaurant with Drive Thru	851504	4.5900e-003	0.0417	0.0351	2.5000e-004		3.1700e-003	3.1700e-003		3.1700e-003	3.1700e-003	0.0000	45.4395	45.4395	8.7000e-004	8.3000e-004	45.7095
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	10080	5.0000e-005	4.9000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5379	0.5379	1.0000e-005	1.0000e-005	0.5411
Total		7.1700e-003	0.0652	0.0548	3.8000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	70.9983	70.9983	1.3600e-003	1.3000e-003	71.4202

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	36402.6	8.9226	3.6000e-004	8.0000e-005	8.9562
Fast Food Restaurant w/o Drive Thru	94296	23.1127	9.4000e-004	2.1000e-004	23.1999
Fast Food Restaurant with Drive Thru	191657	46.9765	1.9100e-003	4.3000e-004	47.1539
Parking Lot	72065.7	17.6639	7.2000e-004	1.6000e-004	17.7305
Strip Mall	58005	14.2175	5.8000e-004	1.3000e-004	14.2712
Total		110.8931	4.5100e-003	1.0100e-003	111.3117

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	36402.6	8.9226	3.6000e-004	8.0000e-005	8.9562
Fast Food Restaurant w/o Drive Thru	94296	23.1127	9.4000e-004	2.1000e-004	23.1999
Fast Food Restaurant with Drive Thru	191657	46.9765	1.9100e-003	4.3000e-004	47.1539
Parking Lot	72065.7	17.6639	7.2000e-004	1.6000e-004	17.7305
Strip Mall	58005	14.2175	5.8000e-004	1.3000e-004	14.2712
Total		110.8931	4.5100e-003	1.0100e-003	111.3117

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Unmitigated	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

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	9.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0681					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Total	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0681					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004
Total	0.0777	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.4000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.4911	0.3781	9.2400e-003	53.6981
Unmitigated	41.4911	0.3781	9.2400e-003	53.6981

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	9.52239 / 0	33.4122	0.3115	7.6100e-003	43.4674
Fast Food Restaurant w/o Drive Thru	0.582785 / 0.0464988	2.1715	0.0191	4.7000e-004	2.7874
Fast Food Restaurant with Drive Thru	1.185 / 0.0945475	4.4154	0.0388	9.5000e-004	5.6677
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.266661 / 0.204297	1.4920	8.7500e-003	2.2000e-004	1.7757
Total		41.4911	0.3781	9.2500e-003	53.6981

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	9.52239 / 0	33.4122	0.3115	7.6100e-003	43.4674
Fast Food Restaurant w/o Drive Thru	0.582785 / 0.0464988	2.1715	0.0191	4.7000e-004	2.7874
Fast Food Restaurant with Drive Thru	1.185 / 0.0945475	4.4154	0.0388	9.5000e-004	5.6677
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.266661 / 0.204297	1.4920	8.7500e-003	2.2000e-004	1.7757
Total		41.4911	0.3781	9.2500e-003	53.6981

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.9932	0.9452	0.0000	39.6224
Unmitigated	21.3242	1.2602	0.0000	52.8298

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	16.46	3.3412	0.1975	0.0000	8.2778
Fast Food Restaurant w/o Drive Thru	27.65	5.6127	0.3317	0.0000	13.9052
Fast Food Restaurant with Drive Thru	56.21	11.4101	0.6743	0.0000	28.2681
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	4.73	0.9602	0.0567	0.0000	2.3787
Total		21.3242	1.2602	0.0000	52.8298

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	12.345	2.5059	0.1481	0.0000	6.2083
Fast Food Restaurant w/o Drive Thru	20.7375	4.2095	0.2488	0.0000	10.4289
Fast Food Restaurant with Drive Thru	42.1575	8.5576	0.5057	0.0000	21.2011
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	3.5475	0.7201	0.0426	0.0000	1.7840
Total		15.9932	0.9452	0.0000	39.6224

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
