Appendix A

Air Quality Modeling

May 20, 2014

Mr. Bill McReynolds
Vice President of Development
CITY VENTURES
1900 Quail Street
Newport Beach, CA 92660

REPORTS: Old Town Village Mixed Use Project – Air Quality and Greenhouse Gas Impact Study, City of Goleta

Dear Mr. McReynolds:

TJW Engineering, Inc. is pleased to submit the Air Quality and Greenhouse Gas (GHG) Impact Study for your proposed project in the City of Goleta. Together with *MD Acoustics*, we have prepared the study to meet the latest City and industry standards for your project. The report is ready for submittal to the City for review and/or approval.

If you have any questions regarding these reports, please feel free to contact me at Thomas@tjwengineering.com or at (949) 878-3509.

Sincerely,

Thomas J. Wheat, P.E., T.E.
President
TJW Engineering, Inc.

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

MD ACOUSTICS
Sound Solutions for Planning and Design

AZ Office
2600 E. Springfield Place #92, Chandler, AZ 85286
p. (602) 774-1950

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1107 Rambling Road, Simi Valley, CA 93065
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May 16, 2014

Mr. Thomas Wheat, P.E.
TJW ENGINEERING
3943 Irvine Blvd., #245
Irvine, CA 92602

Subject: Old Town Village Mixed Use Project – Air Quality and Greenhouse Gas Impact Study, City of Goleta

Dear Mr. Wheat:

MD Acoustics (MD) has completed an air quality and greenhouse (GHG) impact analysis for the Old Town Village Mixed-Use Project. The Project is located south of Hollister Avenue and accessed off of South Kellogg Avenue, in the City of Goleta, as indicated on Exhibit A. The proposed project's site plan is shown on Exhibit B. The City has requested that an air quality and GHG impact study be performed to evaluate the air quality and GHG emissions generated from the project.

This report provides a summary of the findings, analysis procedures, and evaluation for the proposed project with respect to air quality emissions and greenhouse gases. The purpose of this analysis is to review the project design from an Air Quality/GHG standpoint, review criteria pollutant emissions, and determine the overall impact.

Based upon the analysis of the Air Quality/GHG emissions, all study areas are anticipated to be below the criteria pollutant standards. Furthermore, it is anticipated that the project will incorporate design features which will further reduce the potential Air Quality/GHG impacts.

MD is pleased to provide this analysis for the proposed Old Town Village Mixed Use Project. If you have any questions regarding this analysis, or would like further review, please do not hesitate to call us at (805) 404-5917.

Sincerely,
MD ACOUSTICS

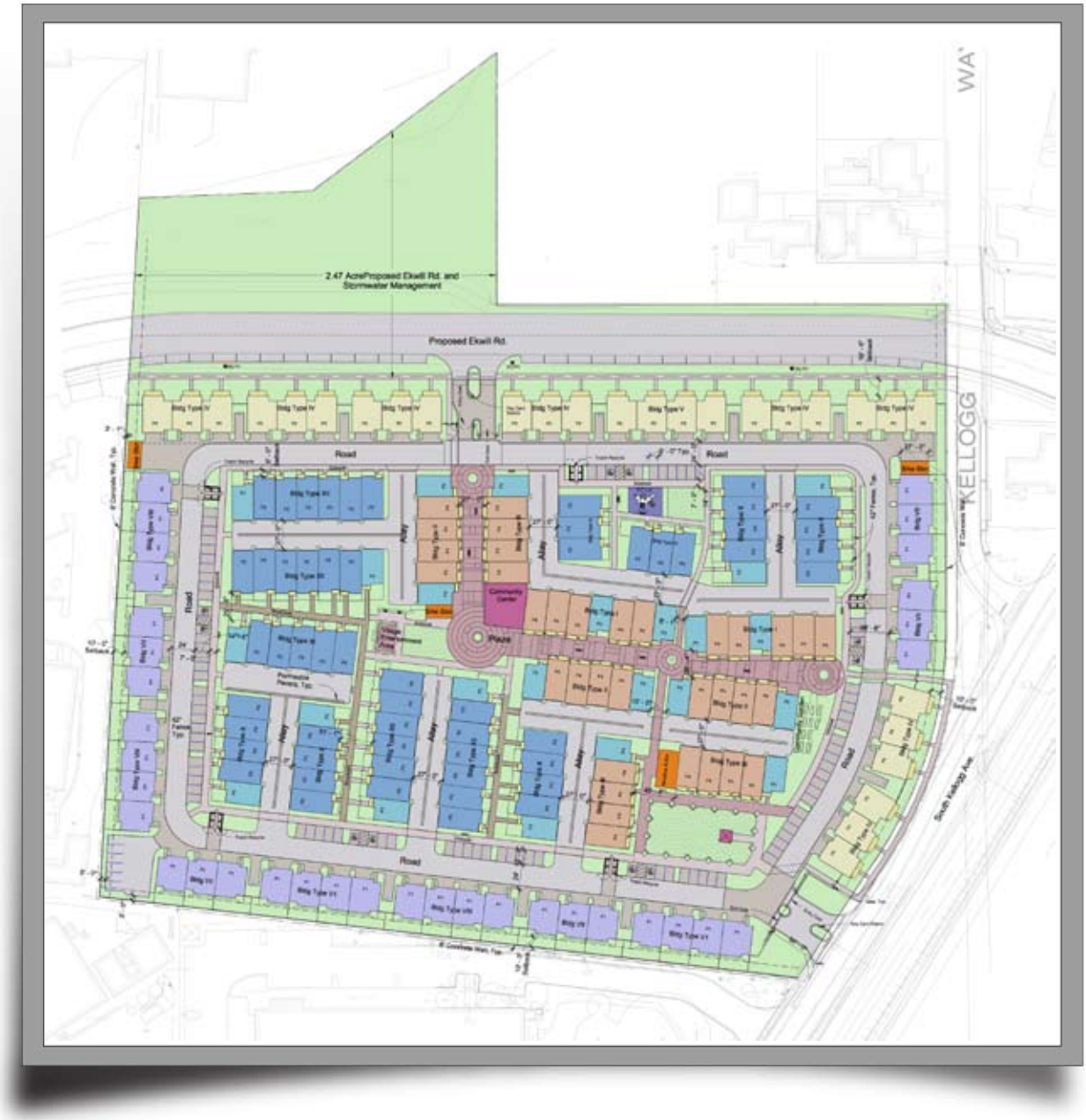
Mike Dickerson

Mike Dickerson, INCE
Principal

OLD TOWN VILLAGE MIXED USE PROJECT

AIR QUALITY AND GREENHOUSE GAS IMPACT STUDY

City of Goleta, California



MD ACOUSTICS
Sound Solutions for Planning and Design

OLD TOWN VILLAGE
MIXED-USE PROJECT
AIR QUALITY AND GREENHOUSE GAS IMPACT STUDY
City of Goleta, California

Prepared for:

TJW ENGINEERING
3943 Irvine Blvd., #245
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Prepared by:

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2600 E. Springfield Place, Unit 92
Chandler, AZ 85286

Mike Dickerson

May 16, 2014

TABLE OF CONTENTS

LIST OF APPENDICES

Appendix A: Emission Calculations Output (CalEEMod)

LIST OF EXHIBITS

LIST OF TABLES

1.0 Executive Summary

1.1 Purpose of Analysis and Study Objectives

This air quality and greenhouse gas (GHG) analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by Santa Barbara County Air Pollution Control District (SBCAPCD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The Project site (Key Site #6) is located in the City of Goleta, California, as shown in Exhibit A. The Project site is located south of Hollister Avenue and accessed off of South Kellogg Avenue. The land uses surrounding the Project include commercial uses to the north, west and south. State Route 217 (SR-217) is located to the east of the site.

1.2.2 Project Description

The Project proposes to develop the site, which is currently occupied with agricultural uses, with a mixed-use development consisting of 175 residential units. Twenty-eight of the units would be configured as shop-keeper units with an attached 275 square feet of commercial-office space (7,700 square feet total commercial space) and 34 units would be live-work office or additional living space depending on the owners' preference. The site plan is shown in Exhibit B.

Construction activities within the Project area will consist of site preparation, on-site mass grading, building, paving, and coating. Table 1 summarizes the land use description for the Project Site.

TABLE 1: LAND USE SUMMARY

Land Use	Unit Amount	Size Metric
Condo/Townhome	175	Dwelling Units
Office	14.228	1000 Sq. Ft.
Parking Lot	3	Acres

1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include

children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc).

The closest existing sensitive receptors (to the site area) are residential land uses located approximately 350 feet to the west of the project.

1.3 Summary of Analysis

The following is a summary of the analysis results, according to impact.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. Less than significant.

Impact AIR-2: The project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Less than significant with mitigation.

Impact AIR-3: The project will not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). Construction: Less than significant with mitigation. Operation: Less than significant.

Impact AIR-4: The project would not expose sensitive receptors to substantial pollutant concentrations. Less than significant.

Impact AIR-5: The project would not create objectionable odors affecting a substantial number of people. Less than significant.

The following is a summary of the analysis results, according to impact.

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment. Less than significant with mitigation.

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

1.4 Mitigation Measures Applied to Project

Air Quality Impact Construction Measures

MM AQ-1 The project shall incorporate the fugitive dust reduction measures as outlined in Rule 345 (SBCAPCD).

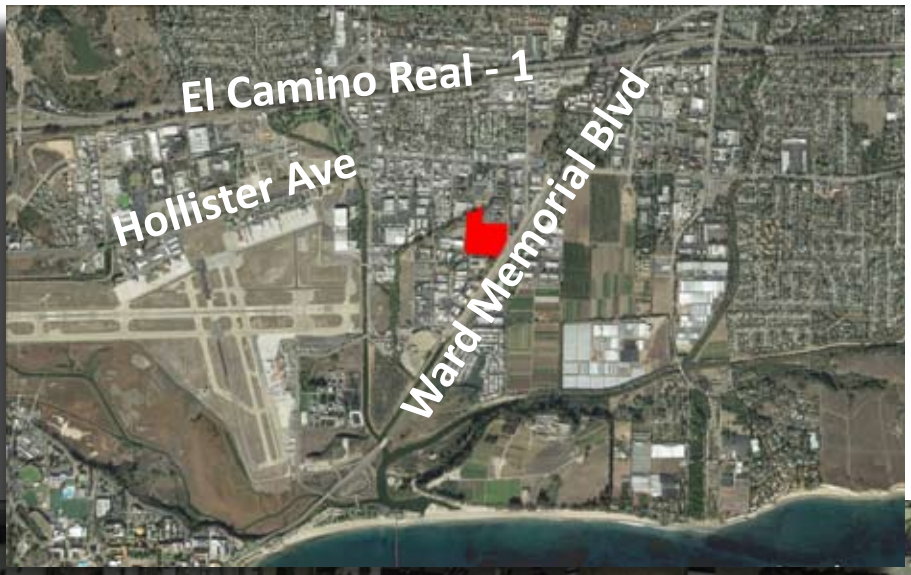
MM AQ-2 Diesel construction equipment during paving shall be configured to meet or exceed the EPA Tier 1 emission standard.

Greenhouse Gas Operational Measures

MM GHG-1 Project buildings shall be designed to exceed current Title 24 requirements by twenty percent (20%).

EXHIBIT A

LOCATION MAP

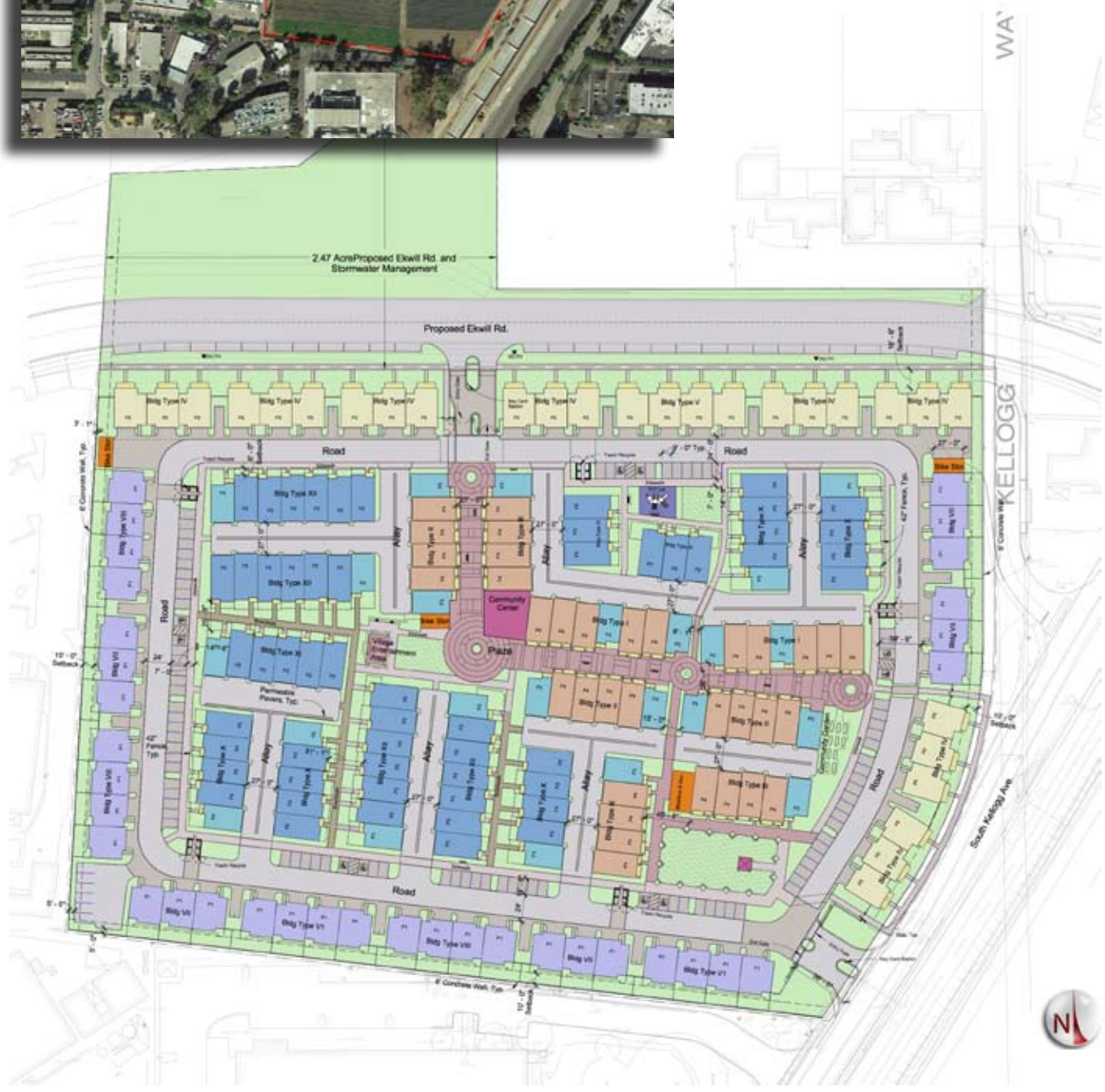


LEGEND:

= Site Boundary

EXHIBIT B

SITE PLAN



2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The Santa Barbara County Air Pollution Control District (SBCAPCD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to project the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 2.

TABLE 2: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[1]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	--	(a) Decrease of pulmonary function and localized lung edema in humans and animals; (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) increased mortality risk; (d) altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) vegetation damage; (f) property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NOX, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NOX) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.075 ppm[4]			
Carbon Monoxide (CO)	1 Hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris (chest pain) and there aspects of coronary heart disease; (b) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) impairment of central nervous system functions; (d) possible increased risk to fetuses.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9 ppm	9 ppm			
Nitrogen Dioxide (NO_2)[2]	1 Hour	0.18 ppm	0.100 ppm	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) contribution to atmospheric discoloration.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides - NOX (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4,and N_2O_5). NOX is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NOX can react with compounds to form nitric acid and related particles.	NOX is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SOX) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	--	0.5 ppm			
	24 Hour	0.04 ppm	--			

TABLE 2: Description of Air Pollutants – Cont.

Air Pollutant	Averaging Time	California Standard	Federal Standard[1]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Particulate Matter (PM_{10})	24 Hour	50 µg/m³	150 µg/m³	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) declines in pulmonary function growth in children; (c) increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in PM2.5 levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter.	Stationary sources include fuel combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust.
	Annual	20 µg/m³	--			
Particulate Matter (PM2.5)	24 Hour	--	35 µg/m³			
	Annual	12 µg/m³	15 µg/m³			
Visibility reducing particles	8 Hour	Extinction coefficient of 0.23 per kilometer; visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 %.				
Sulfates	24 Hour	25 µg/m³	--	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardiopulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO4 2−. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead	30-day	1.5 µg/m³	--	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	--	1.5 µg/m³			
	Rolling 3-month average	--	0.15 µg/m³			
Vinyl chloride	24 Hour	0.01 ppm	--	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. pidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	24 Hour	0.03 ppm	--	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).

TABLE 2: Description of Air Pollutants – Cont.

Air Pollutant	Averaging Time	California Standard	Federal Standard[1]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Volatile organic compounds (VOC)		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.
Benzene		There are no ambient air quality standards for benzene.		Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.	Benzene is a VOC. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a "Group A" carcinogen.	Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts and in the manufacture of detergents, explosives, and pharmaceuticals.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of PM2.5—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Notes:
ppm = parts per million (concentration) µg/m3 = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter
[1] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
Source of effects: South Coast Air Quality Management District 2007b; California Environmental Protection Agency 2002; California Air Resources Board 2009; U.S. Environmental Protection Agency 2010; U.S. Environmental Protection Agency 2000; National Toxicology Program 2005a.
Source of standards: California Air Resources Board 2010a.
Source of properties and sources: U.S. Environmental Protection Agency 1999; U.S. Environmental Protection Agency 2003; U.S. Environmental Protection Agency 2011b; U.S. Environmental Protection Agency 2009a; National Toxicology Program 2005b.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 Santa Barbara County Air Pollution Control District

The agency for air pollution control for the South Central Coast Air Basin (basin) is the Santa Barbara County Air Pollution Control District (SBCAPCD). SBCACPD is responsible for controlling emissions primarily from stationary sources. SBCAPCD maintains air quality monitoring stations throughout the basin. SBCAPCD is also responsible for developing, updating, and implementing the Clean Air Plan (CAP) for the basin. The CAP was updated in 2010 from its previous update in 2007, and is the fifth triennial update to the initial CAP adopted in 1991. The 2010 CAP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2007 CAP. The 2010 CAP was adopted by the SBCAPCD Board of Directors on January 20, 2011. The SCBAPCD is currently developing a 2013 CAP, but it has not yet been adopted.

The 2010 CAP was prepared to address both federal and state requirements. The federal requirements pertain to provisions of the federal Clean Air Act that apply to the City's current designation as an attainment area for the federal 8-hour ozone standard (SBAPCD, 2011). Areas that are designated as attainment for the federal 8-hour ozone standard and attainment for the previous federal 1-hour ozone standard with an approved maintenance plan must submit an 8-hour maintenance plan under section 110(a)(1) of the federal Clean Air Act. The California Clean Air Act, under Health and Safety Code sections 40924 and 40925, requires areas to update their clean air plans every three years with the goal of attaining the state 1-hour ozone standard. The 2010 CAP provides a three-year update to the SBCAPCD's 2007 CAP.

Santa Barbara County Air Pollution Control District Rules
The CAP for the basin establishes a program of rules and regulations administered by SBCACPD to obtain attainment of the state and federal standards. The rules and regulations that may apply to this project include, but are not limited to, the following:

SBCACPD Rule 302 prohibits a person from discharging visible emissions.

SBCACPD Rule 303 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SBCACPD Rule 305 prohibits a person from discharging from particulate matter in excess of concentrations shown in Table 305(a).

SBCACPD Rule 345 governs emissions of fugitive dust during construction activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

2.2 Greenhouse Gas Regulatory Setting

2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

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

United Nations. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

2.2.2 National

Greenhouse Gas Endangerment. On December 2, 2009, the EPA announced that GHGs threaten the public heath and welfare of the American people. The EPA also states that GHG emissions from on-

road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

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

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Mandatory Reporting of Greenhouse Gases. On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. On May 13, 2010 the EPA issued a final rule that establishes common sense approach to addressing greenhouse gas emissions from stationary sources under the Clean Air Act (CAA) permitting programs. In the first phase of the Rule (Jan 2011 – Jun 2011), only sources currently subject to the New Source Review Prevention of Significant Deterioration (PSD) permitting program

(i.e., those that newly constructed or modified in a way that significantly increase emissions of a pollutant other than GHGs) are subject to permitting requirements for their GHG emissions under PSD. For these projects, only GHG increases of 75,000 tons per year CO_2e or more need to determine the Best Available Control Technology (BACT) for their GHG emissions. Similarly for the operating permit program, only sources currently subject to the program are subject to Title V requirements for GHG. In the second phase of the rule (July 2011 – June 2013) new construction projects that exceed a threshold of 100,000 tons per year and modifications of existing facilities that increase emissions by at least 75,000 tons per year will be subject to permitting requirements. Additionally, operating facilities that emit at least 100,000 tons per year will be subject to Title V permitting requirements (USEPA 2010a). EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This rule took effect January 2, 2011.

2.2.3 California

Title 24. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after January 1, 2011 must follow the 2008 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard which buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The California Green Building Standards Code (code section in parentheses) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1).

- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and-75 percent for new homes and 80-percent for commercial projects. All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled.
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
  - The installation of water-conserving fixtures or
  - Utilizing nonpotable water systems (5.303.4).
  - Water use savings. 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35 and 40-percent reductions.
  - Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day.
  - Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas.
  - Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particle board.
  - Building commissioning. Mandatory inspections of energy systems (i.e. heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.

Pavley Regulations. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009-2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and

allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

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

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

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. The Climate Action Team's Report to the Governor in 2006 contains recommendations and strategies to help ensure the 2020 targets in Executive Order S-3-05 are met.

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

SB 1368. In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and

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

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

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

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

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

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

which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

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

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO2e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO2e by 2020, representing approximately 25 percent of the 2020 target.

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

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;

- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, Including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[4]

SB 375. Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies. Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

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

Executive Order S-13-08. Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the " . . . first statewide, multi-sector, region-specific, and information-based climate change adaptation

strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21¬09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

2.2.4 Santa Barbara County Air Pollution Control District

As previously mentioned, the project is within the South Central Coast Air Basin, which is under the jurisdiction of the SBCAPCD. The SBCAPCD has yet to develop or adopt GHG significance thresholds; however, on June 10, 2010, the Santa Barbara County Planning & Development Department produced a memorandum called "Support for Use of Bay Area Air Quality Management District Greenhouse Gas Emissions Standards," which states, "While Santa Barbara County land use patterns differ from those in the Bay Area as a whole, Santa Barbara County is similar to certain Bay Area counties (in particular, Sonoma, Solano, and Marin) in terms of population growth, land use patterns, General Plan/Coastal Land Use Plan policies, and average commute patterns and times. Because of these similarities, the methodology used by the Bay Area Air Quality Management District (BAAQMD) to develop its GHG emission significance thresholds, as well as the thresholds themselves, have applicability to Santa Barbara County and represent the best available interim standards for Santa Barbara County" (Santa Barbara County, 2010).

Consistent with the SBCAPCD and the City of Goleta's approach, this analysis uses the BAAQMD/Santa Barbara County Interim Thresholds of Significance to determine the significance of operational GHG emissions related to this project, and is indicated in Table 3.

TABLE 3
BAAQMD/SBCAPCD Interim Thresholds of Significance

Significance Determination Thresholds	
GHG Emission Source Category	**Operational Emissions**
Commercial and Residential (land use projects)	1,100 $MTCO_2e/yr$ OR 4.6 MT $CO_2e/SP/yr$
Stationary Sources	10,000 $MTCO_2e/yr$

SP = service population, which is resident population plus employee population of the project

3.0 Setting

3.1 Existing Physical Setting

The project is located in the City of Goleta in Santa Barbara County and is within the South Central Coast Air Basin (basin). The basin consists of all of San Luis Obispo, Santa Barbara, and Ventura counties. The air quality in the basin is impacted by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

3.1.1 Local Climate and Meteorology

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the basin, ranging from the low 60s, measured in degrees Fahrenheit (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

The climatological station closest to the project site is a National Weather Service Cooperative weather station located at the Santa Barbara Airport. Climatological data from the National Weather Service at this station spanning the period 1941 to 2013 indicate an annual average temperature of 59.0 Fahrenheit, with December the coldest month (mean minimum daily temperatures of 48.6° Fahrenheit) and July and August, the warmest months of the year (mean daily maximum temperatures of 69.3° Fahrenheit).

The majority of the annual rainfall in the basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunderstorms in the coastal regions and slightly heavier showers in the eastern portion of the basin along the coastal side of the mountains. According to the Coop station the area recieves an annual average precipitation of 16.3 inches. Eighty-five (85) percent of the annual rainfall occurs during the November to March rain season. Highest monthly average rainfall occurs during January and February. Year to year patterns in rainfall are unpredictable due to fluctuations in the weather. General meteorological data for the Goleta area, as measured at the Santa Barbara Airport weather station, are presented in Table 4.

TABLE 4: Meteorological Summary

Month	Temperature (˚F)		Average Precipitation (inches)
	Average High	Average Low	
January	64.0	40.1	3.46
February	64.4	42.8	3.33
March	65.4	44.8	2.96
April	67.4	47.3	1.17
May	69.2	50.2	0.29
June	71.3	53.4	0.07
July	73.9	56.9	0.03
August	74.9	57.3	0.05
September	74.9	55.5	0.23
October	72.7	50.7	0.55
November	69.2	44.0	1.67
December	64.7	40.1	2.52
Annual Average	**69.3**	**48.6**	**16.3**

Notes:
[1] Averages derived from measurements recorded between 1941 and 2013. Source: Western Regional Climate Center 2014.

Two types of temperature inversions (warmer air on top of cooler air) are created in the area: subsidence and radiational. The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high-pressure area to the low-pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but it is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground at night, especially during winter. This type of inversion is typically lower (0 to 500 feet at Vandenberg AFB, for example) and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed, with the more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion.

3.1.2 Local Air Quality

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. The SBCACPD has a network of 18 monitoring stations to monitor the air quality in the region. These monitoring stations are designated to provide a general representation of the local meteorological, terrain, and air quality conditions within the particular geographical area. For purposes of this assessment, the air quality data from the Goleta-Fairview Station was obtained from the CARB website and is presented in Table 5. The data collected at this station is considered to be a representative of the baseline air quality experienced in the City and project area.

TABLE 5: Air Quality Monitoring Summary

Air Pollutant Location	Averaging Time	Item	2010	2011	2012
Carbon Monoxide from Goleta Fairview Station	1 Hour	Max 1-Hour (ppm)	0.0	0.0	0.0
		Days > State Standard (20 ppm)	0	0	0
		Days >National Standard (35 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	0.56	0.56	0.65
		Days > State Standard (9 ppm)	0	0	0
		Days >National Standard (9 ppm)	0	0	0
Ozone from Goleta Fairview Station	1 Hour	Max 1-Hour (ppm)	0.072	0.091	0.065
		Days > State Standard (0.09 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	0.065	0.075	0.056
		Days > State Standard (0.07 ppm)	0	1	0
		Days >National Standard (0.075 ppm)[1]	0	0	0
Coarse Particles (PM10) from Goleta Fairview Station	24 Hour	Max 24-Hour (µg/m³)	44.0	67.9	46.5
		Days > State Standard (50 µg/m³)	*	2	0
		Days >National Standard (150 µg/m³)	*	0	0
	Annual	Annual Average (µg/m³)	16.9	18.4	18.4
		Exceeded >State Standard (20 µg/m³)	NO	NO	NO
Fine Particulates (PM2.5) from Goleta Fairview Station	24 Hour	Max 24-Hour (µg/m³)	23.6	18.4	29
		Days >National Standard (35 µg/m³)	*	*	*
	Annual	Annual Average (µg/m³)	8.2	8.4	9.0
		Exceeded >State Standard (12 µg/m³)	NO	NO	NO
		Exceeded >National Standard (15 µg/m³)[3]	NO	NO	NO
Nitrogen Dioxide from Goleta Fairview Station	1 Hour	Max 1-Hour (.100 ppm)	0.044	0.052	0.041
		Days > State Standard (0.18 ppm)	0	0	0
	Annual	Annual Average (ppm)	0.006	0.006	0.006
		Exceeded >State Standard (0.030 ppm)	NO	NO	NO
		Exceeded >National Standard (0.053 ppm)	NO	NO	NO

Notes: µg/m³ = micrograms per cubic meter, ppm = part per million, ARB = California Air Resource Board, EPA= Environmental Protection Agency, * = insufficient (or no) data to determine value.
Source: EPA and ARB websites www.epa.gov/air/data.index.html and www.arb.ca.gov/adam/topfour/topfour1.php

Table 5 summarizes 2010 through 2012 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the Ozone, and PM_{10}, standards.

3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the

Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. Table 6 lists the attainment status for the criteria pollutants in the basin.

TABLE 6: Santa Barbara County Attainment Status

Pollutant	Averaging Time	State Status[1]	National Status
Ozone	8 hour	Nonattainment	Unclassified/Attainment
	1 hour	Nonattainment	- -
Carbon monoxide	8 hour	Attainment	Attainment
	1 hour	Attainment	Attainment
Nitrogen Dioxide	Annual average	Attainment	Unclassified/Attainment
	1 hour	Attainment	Unclassified/Attainment
Sulfur dioxide	Annual average	- -	- -
	24 hour	Attainment	- -
	1 hour	Attainment	EPA has yet to make final decision
Lead	Qtr	- -	Attainment
	30 day average	Attainment	- -
	3-month average	- -	Unclassified
PM_{10}	Annual arithmetic mean	Nonattainment	Attainment
	24 hour	Nonattainment	Attainment
$PM_{2.5}$	Annual arithmetic mean	Unclassified	Unclassified
	24 hour	- -	Unclassified/Attainment

Notes:
[1] Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS.
- Nonattainment: is assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance: is assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but area no longer in violation of standard.
- Attainment: is assigned to areas where monitored pollutant concentrations meet the standard in question over a designated time period.
- Unclassified: is assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.
Source: Santa Barbara County Air Pollution Control District 2013

3.2 Climate Change Setting

Climate change is a change in the average weather of the earth that is measured by alterations in temperature, wind patterns, storms, and precipitation. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. The historical data is utilized to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPPC concluded that global average temperatures and sea levels are expected to rise under all analytical scenarios (Intergovernmental Panel on Climate Change 2007a). The report also concluded that"[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

Many question the validity of the IPCC's report by claiming the inadequacy of the peer review process. Audits have concluded that 48 percent of the chapters in the Fourth Assessment Report received a grade of "F" meaning that 59 percent or fewer of the sources were peer reviewed (NoConsensus.org 2010).

Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from California Climate Change Center 2006 and Moser et al. 2010).

- A rise in sea levels resulting in displacement of costal businesses and residencies. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 55 inches by the end of the century.
- A reduction in the quality and supply of water from the Sierra snowpack. If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- Increased risk of large wildfires. If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.

- An increase temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

3.3 Greenhouse Gases

Gases that trap heat in the atmosphere are commonly referred to as "greenhouse gases" because they function like a greenhouse by letting light in while preventing heat from escaping. Naturally occurring GHGs include water vapor, carbon dioxide (CO_2) methane (CH_4) and nitrogen dioxide/oxides (N_2O and NO_x). The natural accumulation of GHGs in the atmosphere has a warming effect on the Earth's temperature. Without these natural GHGs, the Earths temperature would be cooler.

In addition to the naturally occurring gases, man-made chemicals also act as GHGs and include the following common compounds: chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), ozone (O_3), and aerosols. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, carbon dioxide.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide (CO_2), the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent (CO_2 e) is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane's warming potential of 21 indicates that methane has 21 times greater warming affect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 7.

TABLE 7: DESCRIPTION OF GREENHOUSE GASES

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N_20),also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N_20.
Methane	Methane (CH_4) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	A natural source of CH_4 is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms.Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetim 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Notes:
[1.] Sources: Intergovernmental Panel on Climate Change 2007a and Intergovernmental Panel on Climate Change 2007b.

Emissions Inventories

Emissions in California were approximately 450 million tons of carbon dioxide equivalents (MMTCO2e) in 2009 (California Air Resources Board).

3.4 Greenhouse Gas Inventory

This analysis is restricted to greenhouse gases identified by AB 32 and the CEQA Guidelines (section 15364.5), which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of greenhouse gases during construction and operation, including several defined by AB 32 and the CEQA Guidelines such as carbon dioxide, methane, and nitrous oxide.

The project may also emit greenhouse gases that are not defined by AB 32 and the CEQA Guidelines. For example, the project may generate aerosols. During construction, the diesel fueled vehicles and equipment emit diesel particulate matter, which has black carbon, which is a component of aerosol. During operation, any diesel fueled trucks or vehicles could emit aerosols. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (Intergovernmental Panel on Climate Change 2007a).

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact, because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited emissions from the manufacture of cement, emissions from the manufacture of steel, and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative at this time. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level” (California Air Pollution Control Officers Association 2008). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream / life cycle emissions are speculative and no further discussion is necessary.

4.0 Modeling Parameters and Assumptions

4.1 Construction

Emissions were estimated using the California Emissions Estimator Model Version 2013.2.2 (CalEEMod), which was released September, 2013. The analysis follows the traffic impact study, reflects a maximum of 175 townhome units, and 14,228 square feet of office (prepared by Associated Transportation Engineers). Construction emissions are estimated based on model Years 2014 and beyond. It was assumed that construction would occur in the Year 2014 and would last approximately one to one and half years. The duration of construction is shown in Table 8. As shown in the table, the project follows the default settings.

TABLE 8: CONSTRUCTION DURATION[1]

Phase	Duration (days)	
	CalEEMod Default	Project
Site Preparation	20.0	20.0
Grading	10.0	10.0
Building	300.0	300.0
Paving of roads	20.0	20.0
Coating	20.0	60.0
Total	**--**	**410.0**

Notes:
[1.] Assumes that units are built in an approximate 1 to 1.5 year time period.

The CalEEMod default construction equipment list is based on survey data based on the size of the sites (i.e., there is data for a 34 acre site). The construction equipment list used for the unmitigated scenario is shown in Table 9.

TABLE 9: CONSTRUCTION EQUIPMENT ASSUMPTIONS[1]

Phase	Equipment	Number	Hours per day	Horsepower	Load Factor	Daily Disturbance Footprint (Acres)[2]
Site Preparation	Rubber Tired Dozers	3	8	255	0.4	3.5
	Tractors/Loaders/Backhoes	4	8	97	0.37	
Grading of main site	Excavators	2	8	162	0.38	4
	Graders	1	8	174	0.41	
	Scrappers	2	8	361	0.48	
	Rubber Tired Dozers	1	8	255	0.4	
	Tractors/Loaders/Backhoes	2	8	97	0.37	

TABLE 9: CONSTRUCTION EQUIPMENT ASSUMPTIONS[1] - CONT.

Building construction	Cranes	1	7	226	0.29	- -
	Forklifts	3	8	89	0.2	
	Generator Sets	1	8	84	0.74	
	Tractors/Loaders/Backhoes	3	7	97	0.37	
	Welders	1	8	46	0.45	
Paving of parking lots and roads, road striping	Pavers	2	8	125	0.42	- -
	Paving Equipment	2	8	130	0.36	
	Rollers	2	8	80	0.38	
Architectural Coating	Air Compressors	1	6	78	0.48	- -

Notes:
[1.] Source: CalEEMod defaults
[2.] Source: Calculation details for CalEEMod Appendix A

Other parameters which are used to estimate emissions such as the worker and vendor trips and trip lengths utilize the CalEEMod defaults. The trips assumptions are provided in Table 10.

TABLE 10: CONSTRUTION TRIPS ASSUMPTIONS[1]

Phase	Trips per day		Total # of Trips Haul	Trip Length (miles)		
	Worker	Vendor		Worker	Vendor	Haul
Site Preparation	18.0	0.0	0.0	12.3	4.6	20.0
Grading	20.0	0.0	0.0	12.3	4.6	20.0
Building	185.0	42.0	0.0	12.3	4.6	20.0
Paving	15.0	0.0	0.0	12.3	4.6	20.0
Coating	37.0	0.0	0.0	12.3	4.6	20.0

Notes:
[1.] Worker fleet is light duty mix; vendor fleet is a heavy duty truck mix; hauling vehicle mix is heavy-heavy duty trucks (all CalEEMod defaults).

4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, gasoline service station, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project and consist of emissions from residential vehicles. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage.

The operational emissions were estimated using the California Emissions Estimator Model Version 2013.2.2 (CalEEMod), which was released September, 2013.

4.2.1 Motor Vehicle Emissions

Estimates of motor vehicle emissions require information on four parameters: trip generation, mix of vehicles accessing the Project (i.e., car versus type of truck), length of each trip made by each type of vehicle, and emission factor (quantity of emission for each mile traveled or time spent idling by each vehicle). Each of these parameters is discussed below.

Home, Work, Shop, and Other Trips

The percentages of home – work, home – shop and home – other trips are from CalEEMod defaults. The trip generation rates are from the CalEEMod's default (which is more conservative than the rates used in the traffic impact study) and are shown in Table 11.

TABLE 11: TRIP GENERATION RATES

Land Use	Quality	Units[1]	Trip Generation Rate (trips/unit/day)		
			Weekday	Saturday	Sunday
Condo/Townhome	175.00	DU	6.59	7.16	6.07
Office	14.23	TSF	11.42	1.64	0.76
Parking Lot	3.00	AC	0.00	0.00	0.00

Notes:
[1.] DU = Dwelling Units, TSF = thousand square feet, AC -= Acre

CalEEMod assumes that "primary" trips travel 86 percent of the trip distance; "diverted" trips travel 11 percent of the trip length; and pass-by trips are 3% of the trip length. The percentages for work, shop, and other trips are from the CalEEMod defaults. The vehicle mix for residential trips is shown in Table 12, as derived from the CalEEMod model for the Year 2016.

TABLE 12: VEHICLE MIX FOR RESIDENTIAL TRIPS[1]

Vehicle Class	Vehicle Mix (%)
Light Duty Automobile (LDA)	48.86%
Light Duty Truck (LDTI)	3.61%
Light Duty Truck (LDT2)	21.18%
Medium Duty Truck (MDV)	15.53%
Light Heavy Truck (LHD1)	5.00%
Light Heavy Truck (LHD2)	0.75%
Medium Heavy Truck (MHD)	1.97%
Heavy Heavy Truck (HHD)	1.40%
Other Bus (OBUS)	0.19%
Urban Bus (UBUS)	0.22%
Motorcycle (MCY)	0.81%
School Bus (SBUS)	0.16%
Motor Home (MH)	0.31%
Total	**100.0%**

Notes:
[1.] CalEEMod Defaults

A summary of the trip lengths from CalEEMod is demonstrated in Table 13.

TABLE 13: OPERATION VEHICLE TRIP ASSUMPTIONS[1]

Land Use	Trip Length (miles) Residential			Percent of Trips (%) Residential		
	H-W	H-S	H-O	H-W	H-S	H-O
Condo/Townhome	12.3	5.9	6.4	37.5	15.0	47.5
Office	0.0	0.0	0.0	0.0	0.0	0.0
Parking Lot	0.0	0.0	0.0	0.0	0.0	0.0

Land Use	Trip Length (miles) Non Residential			Percent of Trips (%) NonResidential		
	C-C	C-W	C-NW	C-C	C-W	C-NW
Condo/Townhome	0.0	0.0	0.0	0.0	0.0	0.0
Office	4.6	8.8	4.6	48.0	33.0	19.0
Parking Lot	0.0	0.0	0.0	0.0	0.0	0.0

Notes:
[1.] CalEEMod Defaults

Emission Factors

The emission factors (from EMFAC2011) required to estimate the mobile source emissions are embedded in the CalEEMod emissions model.

4.2.2 Other Emissions

Natural Gas. Natural gas emissions refer to the emissions that occur when natural gas is combusted on the project site for heating water, space heating, stoves, or other uses. Criteria air pollutant and greenhouse gas emissions were estimated using CalEEMod defaults.

Indirect Electricity. Indirect electricity refers to the greenhouse gas emissions generated by offsite power plants to supply the electricity required for the project. The CalEEMod defaults for energy intensity were used.

Water Transport. There would be greenhouse gas emissions generated from the electricity required to supply and treat the water to be used on the project site. The water consumption for the project is shown in Table 14 (below). The project would use an estimated 22,669,417 gallons of water per year.

TABLE 14: PROJECT WATER CONSUMPTION[1]

Use	Annual Water Consumption (gallons)		
	Indoor	Outdoor	Total
Condo/Townhome	11,401,954	7,188,188	18,590,142
Office	2,529,151	1,550,124	4,079,275
Parking Lot	0	0	0

Notes:
[1.] Source: Estimated from CalEEMod

Waste. There would be greenhouse gas emissions from the decomposing waste generated by the project. The CalEEMod default estimates the project would generate 94 tons per year.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

As described in the SBCAPCD *Scope and Content of Air Quality Sections in Environmental Documents* (December 2011), a project will have a significant air quality effect on the environment if operation of the project will exceeds the air pollution thresholds as described below.

5.1.2 Thresholds for Construction Emissions

The SBCAPCD has not adopted quantitative thresholds of significance for construction emissions since such emissions are temporary. However, according to the SBCAPCD's Scope and Content of Air Quality Sections in Environmental Documents (December 2011), construction-related NOX, ROC, PM10, and PM2.5 emissions from diesel and gasoline powered equipment, paving and other activities, should be quantified. SBCAPCD uses 25 tons per year for ROC or NOX as a guideline for determining the significance of construction impacts. In addition, standard dust control measures must be implemented for any discretionary project involving earth-moving activities, regardless of size or duration. According to the SBCAPCD, proper implementation of these required measures reduces fugitive dust emissions to a level that is less than significant (SBCAPCD, December 2011). Therefore, all construction activity would be required to incorporate the SBCAPCD requirements pertaining to minimizing construction related emissions.

5.1.3 Thresholds for Operational Emissions

The project would result in a significant impact, either individually or cumulatively, if it would:

- Emit 240 lbs/day or more of ROG from all sources (both stationary and mobile).
- Emit 240 lbs/day or more of NO_x from all sources (both stationary and mobile).
- Emit 25 lbs/day or more of unmitigated ROG from any motor vehicle trips only.
- Emit 25 lbs/day or more of unmitigated NO_x from any motor vehicle trips only.
- Emit 80 lbs/day or more of PM10.
- Exceed the APCD health risk public notification thresholds adopted by the APCD Board (10 excess cancer cases in a million for cancer risk and a Hazard Index of more than 1.0 for non-cancer risk).
- Be inconsistent with federal or state air quality plans for Santa Barbara County.

5.2 Greenhouse Gas Thresholds of Significance

5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

5.2.2 SBCAPCD Recommended GHG Significance Thresholds

As previously described in Section 2.2.4 of this report and outlined in Table 3 (page 19), the SBCAPCD recommends utilizing the significance criteria adopted by BAAQMD to determine significance of GHG emissions.

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

CalEEMod was used to estimate onsite and offsite construction emissions as shown in Table 15. The emissions incorporate Rule 345 (Control of Fugitive Dust) during construction. The CalEEMod emissions do not exceed the SBCAPCD construction emissions thresholds. Therefore, the project will not result in significant construction emissions.

TABLE 15: CONSTRUCTION EMISSIONS (tons/year)

Activity	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation	0.03	0.29	0.21	0.00	0.02	0.02
Grading	0.10	1.21	0.80	0.00	0.07	0.06
Building Construction	0.59	4.06	4.53	0.00	0.47	0.29
Architectural Coating	2.47	0.06	0.10	0.00	0.00	0.00
Paving	0.03	0.25	0.16	0.00	0.01	0.01
Total Construction Emissions[1]	3.22	5.87	5.80	0.00	0.57	0.38
SBCAPCD Thresholds	25.	25.				
Exceeds Threshold (?)	**No**	**No**				

Notes:
[1] Indicates emissions levels with Best Available Control Measures (BACM). Emission totals include on-site and off-site generated emissions for each phase.

Even though the air quality impact would be less than significant during construction, SBCAPCD permitting regulations require the project to comply with Rule 345 (Fugitive Dust Control) for all projects involving earthmoving activities regardless of size or duration.

MM AQ-1 The project shall incorporate the fugitive dust reduction measures as outlined in Rule 345 (SBCAPCD).

MM AQ-2 Diesel construction equipment during paving shall be configured to meet or exceed the EPA Tier 1 emission standard.

The specific measures that would be applied in accordance with standard SBCAPCD requirements include the following:

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph.

Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Minimize the amount of disturbed area and reduce onsite vehicle speeds to 15 mph or less.
- If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than 2 days will be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site will be tarped from the point of origin.

- Gravel pads will be installed at all access points to prevent tracking of mud onto public roads.

- After clearing, grading, earth moving, or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

- Monitor the dust control program and order increased watering, as necessary, to prevent transport of dust off site. The contractor or builder will designate a person or persons to perform these tasks. Their duties will include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons will be provided to the SBCAPCD prior to land use clearance for map recordation and prior to land use clearance for finish grading of the structure.

- Prior to land use clearance, the applicant will include, as a note on a separate informational sheet to be recorded with the map, these dust control requirements. All requirements will be shown on grading and building plans.

6.1.1 Odors

Heavy-duty equipment in the project area during construction will emit odors; however, the construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required. Therefore, the project will not result in significant odors.

6.2 Operational Air Quality Emissions Impact

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The stationary source emissions would come from additional natural gas consumption for on-site buildings and electricity for the lighting in the buildings and at the parking area. Based on trip generation in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, Eighth Edition, which is the default trip generation factors included in the CalEEMod model, long-term operational emissions associated with the proposed project, calculated with the CalEEMod model, are shown in Table 16. Area sources include architectural coatings, consumer products, and landscaping. Energy sources include natural gas consumption for heating.

TABLE 16: OPERATIONAL EMISSIONS (lbs/day)

Activity	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources	8.92	0.17	14.64	0.00	0.08	0.08
Energy Sources	0.09	0.74	0.34	0.00	0.06	0.06
Mobile Sources	5.76	13.77	62.13	0.11	8.28	2.28
Total: Area Sources + Energy + Mobile	14.77	14.69	77.10	0.11	8.41	2.42
SBCAPCD Threshold (Area + Energy + Mobile)	240	240	N/A	N/A	80	N/A
Exceeds Threshold (?)[1]	**No**	**No**	N/A	N/A	**No**	N/A
SBCAPCD Threshold (Mobile)	25	25	N/A	N/A	N/A	N/A
Exceeds Threshold (?)[1]	**No**	**No**	N/A	N/A	N/A	**No**

Notes:
[1] Emissions levels do not exceed the significance thresholds, therefore any additional air quality reduction measures will further reduce emissions.

Table 16 summarizes operational emissions resulting from the proposed project. As shown, the project would generate an estimated 14.77 pounds of ROG, 14.69 pounds of NO_x, and 8.41 pounds of PM10 per day. The emissions are below the APCD's thresholds of significance. Therefore, the project will not result in significant regional operational emissions.

6.3 Air Quality Management Plan Consistency

CEQA requires that certain proposed projects be analyzed for consistency with the CAP or an Air Quality Management Plan (AQMP). The 2010 CAP utilized growth forecasts provided by the Santa Barbara Council Association of Governments (SBCAG). SBCAG's latest regional growth forecast was for 2010-2040 and projected population growth and associated air pollutant emissions for all of the Santa Barbara County incorporated and unincorporated areas. The project is consistent with the CAP by virtue of its consistency with the City's growth projections (General Plan) and needed infrastructure to accommodate the growth. Therefore, the emissions associated with the proposed project are within the amounts already accounted for in the CAP, and no significant inconsistency with the CAP would occur. No mitigation is required.

6.4 Health Risk Assessment

The SBCAPCD has sited CARBs recommended approach when it comes to sensitive land uses near freeways. The ARB has identified diesel particulate matter as the primary airborne carcinogen in the state (ARB, n.d.) The main sources of diesel particulate matter are exhaust from heavy-duty trucks on the interstate freeway system and diesel-powered locomotives. Due to the potential for exposure of

sensitive receptors to diesel particulate matter and other toxic air contaminants, CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (June 2005) recommends avoiding siting new sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. The CARB Handbook found that, based on traffic-related studies, additional non-cancer health risks attributable to proximity to freeways occurs within 1,000 feet and is strongest within 300 feet. California freeway studies show about a 70% drop-off in particulate pollution levels at 500 feet (ARB, 2005).

According to the Caltrans *2012 Annual Average Truck Traffic Volumes on California State Highways (pg 276),* the segment of highway next to the site area has an ADT of 12,000 with the volume increasing to 21,900 ADT closer to the US-101. The ADT volumes along US-101 exceed 100,000. The ADT volumes along the SR-217 are significantly below the volumes that are outlined in CARB's handbook and would therefore not warrant an in-depth health risk assessment.

The project site is located along the west side of SR-217 Freeway. The nearest residences on-site would be located approximately 200 feet to the centerline of SR-217 and over a half mile from the centerline of the US-101. Therefore the risk associated with toxic air contaminants at the project site is considered less than significant.

7.0 Greenhouse Gas Impact Analysis

7.1 Construction Greenhouse Gas Emissions Impact

CalEEMod was used to estimate onsite and offsite emissions. For assumptions used in estimating these emissions, please refer to Section 4.1. Greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 17. The emissions are from all phases of construction. The total construction emissions amortized over a period of 30 years are estimated at 27 metric tons of CO_2e per year. CalEEMod output calculations are provided in Appendix A.

TABLE 17: CONSTRUCTION GREENHOUSE GAS EMISSIONS

Activity	Emissions ($MTCO_2e$)[1]		
	Onsite	Offsite	Total
Site Preparation	19	1	20
Grading	90	2	92
Building Construction[2]	369	307	675
Paving	21	1	22
Coating	1	1	3
Total	500	313	812
Averaged over 30 years[3]	17	10	27

Notes:
1. $MTCO_2e$=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, nitrous oxide, and/or hydroflurocarbons).
2. Construction is estimated to last approximately 1 to 1.5 years.
3. The emissions are averaged over 30 years because the average is added to the operational emissions, pursuant to BAAQMD/SBCACPD recommendations.
* CalEEMod output (Appendix A)

7.2 Operational Greenhouse Gas Emissions Impact

Operational or long-term emissions occur over the life of the project. For assumptions used in estimating the emissions and details regarding the emissions, please refer to Section 4.2. The operational emissions for the project are 1,927 metric tons of CO_2e per year as shown in Table 18 (below). The emissions refer to emissions with the incorporation of regulations (see Section 2.2.3) that would further reduce emissions. In addition, the project proposes to exceed Title 24 building requirements by 20%, which would further reduce emissions.

MM GHG-1 Project buildings shall be designed to exceed current Title 24 requirements by twenty percent (20%).

The estimation does not include changes in carbon storage or sequestration. Carbon is stored in biological material such as trees and lumber. There is little vegetation on the project site of this specific type, although landscaping will be provided. In addition, the structures that will be operational once the project is constructed will retain carbon. Therefore, the carbon sequestration ability of the project site pre and post project is speculative at this time.

TABLE 18: PROJECT GREENHOUSE GAS EMISSIONS DURING OPERATION

Emission Source	Emissions ($MTCO_2e$) with Regulation[1]
Area Source	2
Energy Source	445
Mobile Source	1,371
Waste	43
Water	39
Subtotal (Operation)	1,900
Subtotal Construction (averaged over 30 years)	27
Total Annual Emissions	**1,927**

Notes:
[1.] $MTCO_2e$ = metric tons of carbon dioxide equivalents

Table 19 compares the project emissions to the BAAQMD/SBCACPD's GHG significance thresholds.

TABLE 19: SIGNIFICANCE OF GREENHOUSE GASES

Item	Total Emissions	Units
Total Annual Emissions[1]	1,927	$MTCO_2e$/year
SBCACPD Interim Threshold	1,100	$MTCO_2e$/year
Exceed Threshold?	Yes	- -
SBCACPD Emissions per service population threshold	4.6	$MTCO_2e$/SP/year
Emissions per service population[2]	4.0	$MTCO_2e$/SP/year
Exceed Threshold?	No	- -
Significant Impact?	No	- -

Notes:
[1.] Refer to Table 17 for emissions
[2.] SP = Service Population, defined as residents + employees. The project would have a SP of 476, CalEEMod output (Appendix A).

Project emissions were compared to the SBCACPD's 1,100 metric tons of CO_2e/year threshold and the service population threshold of 4.6 metric tons of CO_2e/SP/year, respectively. Based on BAAQMD/SBCACPD's methodology it is appropriate to compare emissions to either threshold. Based on a service population of 476, this equates to 4.0 metric tons of CO_2e/SP/year. GHG emissions would not exceed the 4.6 metric tons of CO_2e/SP/year threshold of significance. Therefore, the project will not result in significant operation GHG emissions.

7.3 Conflict with an Applicable Plan, Policy or Regulation for the Purpose of Reducing the Emissions of Greenhouse Gases

The project will promote the goals of AB 32. The project site location is positioned within the City's planned growth urban footprint. The project incorporates a number of features that would minimize greenhouse gas emissions. Although the project would generate greenhouse gas emissions, these emissions would not have a significant impact on the environment.

The core mandate of AB 32 is that statewide GHG emissions in Year 2020 be equal to Year 1990 levels. AB 32 is anticipated to secure emission reductions through a variety of mechanisms, such as increasing energy efficiency and introducing more renewable energy sources. As noted earlier, CARB has already begun to adopt strategies to reduce GHG emissions under AB 32. Strategies included in the Climate Change Scoping Plan (CARB 2008b), such as SPM-2 (California Light-Duty Vehicle GHG Standards), SPM-3 (Energy Efficiency), SPM-4 (Renewables Portfolio Standard), SPM-5 (Low Carbon Fuel Standard), SPM-7 (Vehicle Efficiency Measures), and SPM-10 (Heavy/Medium-Duty Vehicles), while applicable to land use projects, are generally not under the control of local agencies. Nonetheless, emission reductions from these strategies are anticipated to occur as CARB adopts and implements regulations under AB 32. Reductions are already expected to take place in 2012, if not earlier, due to the newly adopted vehicle emission standards and the Low Carbon Fuel Standard.

With the implementation of energy efficient programs, and state and federal vehicle emission reduction programs, the proposed Project would be consistent with the goals of AB 32 and the City of Goleta.

8.0 References

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Appendix A

Emission Calculations Output
(CalEEMod)

Old Town Village Mixed-Use Development - AQ

Santa Barbara County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	175.00	Dwelling Unit	7.00	175,000.00	476
Office Park	14.23	1000sqft	0.33	14,228.00	0
Parking Lot	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - - Per project site plan

Land Use - - Per project site plan

Construction Phase - - Per construction timeline estimates

Energy Use -

Construction Off-road Equipment Mitigation - - Per Rule 345 - Construction Dust Control Measures

Energy Mitigation - - Project will design will exceed Title 24 by 20%

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	60.00
tblLandUse	LotAcreage	10.94	7.00
tblProjectCharacteristics	OperationalYear	2014	2016

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	6.9584	80.8902	53.1635	0.0638	18.2346	3.8809	21.3739	9.9753	3.5704	12.8634	0.0000	6,735.5785	6,735.5785	1.9500	0.0000	6,776.5280
2015	98.8456	34.8991	37.4637	0.0522	1.9051	2.1839	4.0891	0.5087	2.0519	2.5606	0.0000	4,967.6093	4,967.6093	0.7889	0.0000	4,984.1765
2016	98.7825	2.6124	4.1271	6.7400e-003	0.3461	0.1992	0.5454	0.0918	0.1990	0.2908	0.0000	594.6341	594.6341	0.0524	0.0000	595.7341
Total	**204.5865**	**118.4016**	**94.7543**	**0.1227**	**20.4859**	**6.2640**	**26.0083**	**10.5758**	**5.8213**	**15.7148**	**0.0000**	**12,297.8219**	**12,297.8219**	**2.7913**	**0.0000**	**12,356.4386**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	6.9584	80.8902	53.1635	0.0638	1.9051	3.8809	4.6924	0.7597	3.5704	3.8789	0.0000	6,735.5784	6,735.5784	1.9500	0.0000	6,776.5280
2015	98.8456	34.8991	37.4637	0.0522	1.9051	2.1839	4.0891	0.5087	2.0519	2.5606	0.0000	4,967.6093	4,967.6093	0.7889	0.0000	4,984.1765
2016	98.7825	2.6124	4.1271	6.7400e-003	0.3461	0.1992	0.5454	0.0918	0.1990	0.2908	0.0000	594.6341	594.6341	0.0524	0.0000	595.7341
Total	**204.5865**	**118.4016**	**94.7543**	**0.1227**	**4.1563**	**6.2640**	**9.3268**	**1.3602**	**5.8213**	**6.7303**	**0.0000**	**12,297.8219**	**12,297.8219**	**2.7913**	**0.0000**	**12,356.4386**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**79.71**	**0.00**	**64.14**	**87.14**	**0.00**	**57.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.9225	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790	0.0000	26.0004	26.0004	0.0265	0.0000	26.5570
Energy	0.0868	0.7448	0.3358	4.7400e-003		0.0600	0.0600		0.0600	0.0600		947.3472	947.3472	0.0182	0.0174	953.1126
Mobile	5.7596	13.7721	62.1260	0.1068	7.9707	0.1654	8.1361	2.1307	0.1519	2.2826		9,308.9244	9,308.9244	0.4621		9,318.6282
Total	**14.7689**	**14.6882**	**77.1025**	**0.1123**	**7.9707**	**0.3044**	**8.2750**	**2.1307**	**0.2909**	**2.4216**	**0.0000**	**10,282.2721**	**10,282.2721**	**0.5067**	**0.0174**	**10,298.2978**

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	lb/day										lb/day					
Area	8.9225	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790	0.0000	26.0004	26.0004	0.0265	0.0000	26.5570
Energy	0.0726	0.6225	0.2802	3.9600e-003		0.0502	0.0502		0.0502	0.0502		791.8382	791.8382	0.0152	0.0145	796.6572
Mobile	5.7596	13.7721	62.1260	0.1068	7.9707	0.1654	8.1361	2.1307	0.1519	2.2826		9,308.9244	9,308.9244	0.4621		9,318.6282
Total	**14.7546**	**14.5659**	**77.0469**	**0.1115**	**7.9707**	**0.2945**	**8.2652**	**2.1307**	**0.2810**	**2.4117**	**0.0000**	**10,126.7631**	**10,126.7631**	**0.5038**	**0.0145**	**10,141.8424**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.10**	**0.83**	**0.07**	**0.69**	**0.00**	**3.24**	**0.12**	**0.00**	**3.39**	**0.41**	**0.00**	**1.51**	**1.51**	**0.59**	**16.41**	**1.52**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/1/2014	8/14/2014	5	10	
2	Grading	Grading	8/15/2014	9/25/2014	5	30	
3	Building Construction	Building Construction	9/26/2014	11/19/2015	5	300	
4	Paving	Paving	11/20/2015	12/17/2015	5	20	
5	Architectural Coating	Architectural Coating	12/18/2015	3/10/2016	5	60	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 354,375; Residential Outdoor: 118,125; Non-Residential Indoor: 27,223; Non-Residential Outdoor: 9,074 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	185.00	42.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	37.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2014

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867		4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**18.0663**	**3.1377**	**21.2040**	**9.9307**	**2.8867**	**12.8174**		**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

3.2 Site Preparation - 2014

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	lb/day										lb/day					
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
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
Worker	0.0993	0.1522	1.4224	1.8300e-003	0.1684	1.5000e-003	0.1699	0.0447	1.3500e-003	0.0460		162.6702	162.6702	0.0117		162.9151
Total	**0.0993**	**0.1522**	**1.4224**	**1.8300e-003**	**0.1684**	**1.5000e-003**	**0.1699**	**0.0447**	**1.3500e-003**	**0.0460**		**162.6702**	**162.6702**	**0.0117**		**162.9151**

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	lb/day										lb/day					
Fugitive Dust					1.3008	0.0000	1.3008	0.7150	0.0000	0.7150			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867	0.0000	4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**1.3008**	**3.1377**	**4.4385**	**0.7150**	**2.8867**	**3.6017**	**0.0000**	**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

3.2 Site Preparation - 2014

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	lb/day										lb/day					
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
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
Worker	0.0993	0.1522	1.4224	1.8300e-003	0.1684	1.5000e-003	0.1699	0.0447	1.3500e-003	0.0460		162.6702	162.6702	0.0117		162.9151
Total	**0.0993**	**0.1522**	**1.4224**	**1.8300e-003**	**0.1684**	**1.5000e-003**	**0.1699**	**0.0447**	**1.3500e-003**	**0.0460**		**162.6702**	**162.6702**	**0.0117**		**162.9151**

3.3 Grading - 2014

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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.8480	80.7211	51.5831	0.0618		3.8792	3.8792		3.5689	3.5689		6,554.8337	6,554.8337	1.9370		6,595.5113
Total	**6.8480**	**80.7211**	**51.5831**	**0.0618**	**8.6733**	**3.8792**	**12.5525**	**3.5965**	**3.5689**	**7.1654**		**6,554.8337**	**6,554.8337**	**1.9370**		**6,595.5113**

3.3 Grading - 2014

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	lb/day										lb/day					
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
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
Worker	0.1104	0.1691	1.5804	2.0300e-003	0.1871	1.6700e-003	0.1888	0.0496	1.5000e-003	0.0511		180.7447	180.7447	0.0130		181.0167
Total	**0.1104**	**0.1691**	**1.5804**	**2.0300e-003**	**0.1871**	**1.6700e-003**	**0.1888**	**0.0496**	**1.5000e-003**	**0.0511**		**180.7447**	**180.7447**	**0.0130**		**181.0167**

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	lb/day										lb/day					
Fugitive Dust					0.6245	0.0000	0.6245	0.2590	0.0000	0.2590			0.0000			0.0000
Off-Road	6.8480	80.7211	51.5831	0.0618		3.8792	3.8792		3.5689	3.5689	0.0000	6,554.8337	6,554.8337	1.9370		6,595.5113
Total	**6.8480**	**80.7211**	**51.5831**	**0.0618**	**0.6245**	**3.8792**	**4.5037**	**0.2590**	**3.5689**	**3.8278**	**0.0000**	**6,554.8337**	**6,554.8337**	**1.9370**		**6,595.5113**

3.3 Grading - 2014

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	lb/day										lb/day					
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
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
Worker	0.1104	0.1691	1.5804	2.0300e-003	0.1871	1.6700e-003	0.1888	0.0496	1.5000e-003	0.0511		180.7447	180.7447	0.0130		181.0167
Total	**0.1104**	**0.1691**	**1.5804**	**2.0300e-003**	**0.1871**	**1.6700e-003**	**0.1888**	**0.0496**	**1.5000e-003**	**0.0511**		**180.7447**	**180.7447**	**0.0130**		**181.0167**

3.4 Building Construction - 2014

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	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973		2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**		**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

3.4 Building Construction - 2014

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	lb/day										lb/day					
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
Vendor	0.5750	4.0269	6.5507	6.5400e-003	0.1745	0.0738	0.2483	0.0497	0.0678	0.1175		662.4301	662.4301	7.4600e-003		662.5868
Worker	1.0210	1.5645	14.6186	0.0188	1.7306	0.0154	1.7460	0.4590	0.0139	0.4729		1,671.8886	1,671.8886	0.1198		1,674.4047
Total	**1.5960**	**5.5914**	**21.1693**	**0.0253**	**1.9051**	**0.0892**	**1.9943**	**0.5087**	**0.0817**	**0.5903**		**2,334.3187**	**2,334.3187**	**0.1273**		**2,336.9915**

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	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973	0.0000	2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**	**0.0000**	**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

3.4 Building Construction - 2014

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	lb/day										lb/day					
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
Vendor	0.5750	4.0269	6.5507	6.5400e-003	0.1745	0.0738	0.2483	0.0497	0.0678	0.1175		662.4301	662.4301	7.4600e-003		662.5868
Worker	1.0210	1.5645	14.6186	0.0188	1.7306	0.0154	1.7460	0.4590	0.0139	0.4729		1,671.8886	1,671.8886	0.1198		1,674.4047
Total	**1.5960**	**5.5914**	**21.1693**	**0.0253**	**1.9051**	**0.0892**	**1.9943**	**0.5087**	**0.0817**	**0.5903**		**2,334.3187**	**2,334.3187**	**0.1273**		**2,336.9915**

3.4 Building Construction - 2015

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	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**		**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

3.4 Building Construction - 2015

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	lb/day										lb/day					
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
Vendor	0.4896	3.5004	5.8617	6.5100e-003	0.1746	0.0530	0.2275	0.0497	0.0487	0.0983		654.4812	654.4812	6.2100e-003		654.6117
Worker	0.8880	1.3688	12.8575	0.0189	1.7306	0.0142	1.7448	0.4590	0.0129	0.4719		1,623.5510	1,623.5510	0.1079		1,625.8165
Total	**1.3777**	**4.8691**	**18.7192**	**0.0254**	**1.9051**	**0.0672**	**1.9723**	**0.5087**	**0.0615**	**0.5702**		**2,278.0322**	**2,278.0322**	**0.1141**		**2,280.4282**

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	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904	0.0000	2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**	**0.0000**	**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

3.4 Building Construction - 2015

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	lb/day										lb/day					
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
Vendor	0.4896	3.5004	5.8617	6.5100e-003	0.1746	0.0530	0.2275	0.0497	0.0487	0.0983		654.4812	654.4812	6.2100e-003		654.6117
Worker	0.8880	1.3688	12.8575	0.0189	1.7306	0.0142	1.7448	0.4590	0.0129	0.4719		1,623.5510	1,623.5510	0.1079		1,625.8165
Total	**1.3777**	**4.8691**	**18.7192**	**0.0254**	**1.9051**	**0.0672**	**1.9723**	**0.5087**	**0.0615**	**0.5702**		**2,278.0322**	**2,278.0322**	**0.1141**		**2,280.4282**

3.5 Paving - 2015

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	lb/day										lb/day					
Off-Road	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016		2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	0.3930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7102**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**		**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.5 Paving - 2015

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	lb/day										lb/day					
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
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
Worker	0.0720	0.1110	1.0425	1.5300e-003	0.1403	1.1500e-003	0.1415	0.0372	1.0400e-003	0.0383		131.6393	131.6393	8.7500e-003		131.8230
Total	**0.0720**	**0.1110**	**1.0425**	**1.5300e-003**	**0.1403**	**1.1500e-003**	**0.1415**	**0.0372**	**1.0400e-003**	**0.0383**		**131.6393**	**131.6393**	**8.7500e-003**		**131.8230**

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	lb/day										lb/day					
Off-Road	2.3172	25.1758	14.9781	0.0223		1.4148	1.4148		1.3016	1.3016	0.0000	2,339.8984	2,339.8984	0.6986		2,354.5681
Paving	0.3930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.7102**	**25.1758**	**14.9781**	**0.0223**		**1.4148**	**1.4148**		**1.3016**	**1.3016**	**0.0000**	**2,339.8984**	**2,339.8984**	**0.6986**		**2,354.5681**

3.5 Paving - 2015

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	lb/day										lb/day					
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
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
Worker	0.0720	0.1110	1.0425	1.5300e-003	0.1403	1.1500e-003	0.1415	0.0372	1.0400e-003	0.0383		131.6393	131.6393	8.7500e-003		131.8230
Total	**0.0720**	**0.1110**	**1.0425**	**1.5300e-003**	**0.1403**	**1.1500e-003**	**0.1415**	**0.0372**	**1.0400e-003**	**0.0383**		**131.6393**	**131.6393**	**8.7500e-003**		**131.8230**

3.6 Architectural Coating - 2015

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	lb/day										lb/day					
Archit. Coating	98.2614					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177
Total	**98.6680**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**		**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

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	lb/day										lb/day					
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
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
Worker	0.1776	0.2738	2.5715	3.7700e-003	0.3461	2.8500e-003	0.3490	0.0918	2.5800e-003	0.0944		324.7102	324.7102	0.0216		325.1633
Total	**0.1776**	**0.2738**	**2.5715**	**3.7700e-003**	**0.3461**	**2.8500e-003**	**0.3490**	**0.0918**	**2.5800e-003**	**0.0944**		**324.7102**	**324.7102**	**0.0216**		**325.1633**

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	lb/day										lb/day					
Archit. Coating	98.2614					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.2177
Total	**98.6680**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**	**0.0000**	**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

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	lb/day										lb/day					
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
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
Worker	0.1776	0.2738	2.5715	3.7700e-003	0.3461	2.8500e-003	0.3490	0.0918	2.5800e-003	0.0944		324.7102	324.7102	0.0216		325.1633
Total	**0.1776**	**0.2738**	**2.5715**	**3.7700e-003**	**0.3461**	**2.8500e-003**	**0.3490**	**0.0918**	**2.5800e-003**	**0.0944**		**324.7102**	**324.7102**	**0.0216**		**325.1633**

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	98.2614					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**98.6299**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	lb/day										lb/day					
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
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
Worker	0.1526	0.2401	2.2432	3.7600e-003	0.3461	2.6200e-003	0.3487	0.0918	2.3900e-003	0.0942		313.1861	313.1861	0.0192		313.5893
Total	**0.1526**	**0.2401**	**2.2432**	**3.7600e-003**	**0.3461**	**2.6200e-003**	**0.3487**	**0.0918**	**2.3900e-003**	**0.0942**		**313.1861**	**313.1861**	**0.0192**		**313.5893**

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	lb/day										lb/day					
Archit. Coating	98.2614					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**98.6299**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.6 Architectural Coating - 2016

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	lb/day										lb/day					
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
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
Worker	0.1526	0.2401	2.2432	3.7600e-003	0.3461	2.6200e-003	0.3487	0.0918	2.3900e-003	0.0942		313.1861	313.1861	0.0192		313.5893
Total	**0.1526**	**0.2401**	**2.2432**	**3.7600e-003**	**0.3461**	**2.6200e-003**	**0.3487**	**0.0918**	**2.3900e-003**	**0.0942**		**313.1861**	**313.1861**	**0.0192**		**313.5893**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7596	13.7721	62.1260	0.1068	7.9707	0.1654	8.1361	2.1307	0.1519	2.2826		9,308.9244	9,308.9244	0.4621		9,318.6282
Unmitigated	5.7596	13.7721	62.1260	0.1068	7.9707	0.1654	8.1361	2.1307	0.1519	2.2826		9,308.9244	9,308.9244	0.4621		9,318.6282

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,153.25	1,253.00	1062.25	3,185,417	3,185,417
Office Park	162.48	23.33	10.81	226,094	226,094
Parking Lot	0.00	0.00	0.00		
Total	1,315.73	1,276.33	1,073.06	3,411,511	3,411,511

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	12.30	5.90	6.40	37.50	15.00	47.50	86	11	3
Office Park	8.80	4.60	4.60	33.00	48.00	19.00	82	15	3
Parking Lot	8.80	4.60	4.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.488644	0.036147	0.211789	0.155303	0.049980	0.007496	0.019734	0.013964	0.001908	0.002194	0.008100	0.001610	0.003131

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0726	0.6225	0.2802	3.9600e-003		0.0502	0.0502		0.0502	0.0502		791.8382	791.8382	0.0152	0.0145	796.6572
NaturalGas Unmitigated	0.0868	0.7448	0.3358	4.7400e-003		0.0600	0.0600		0.0600	0.0600		947.3472	947.3472	0.0182	0.0174	953.1126

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	lb/day										lb/day					
Condo/Townhouse	7587.41	0.0818	0.6992	0.2976	4.4600e-003		0.0565	0.0565		0.0565	0.0565		892.6365	892.6365	0.0171	0.0164	898.0689
Office Park	465.041	5.0200e-003	0.0456	0.0383	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003		54.7107	54.7107	1.0500e-003	1.0000e-003	55.0437
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
Total		**0.0869**	**0.7448**	**0.3359**	**4.7300e-003**		**0.0600**	**0.0600**		**0.0600**	**0.0600**		**947.3472**	**947.3472**	**0.0182**	**0.0174**	**953.1126**

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	lb/day										lb/day					
Office Park	0.377724	4.0700e-003	0.0370	0.0311	2.2000e-004		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003		44.4381	44.4381	8.5000e-004	8.1000e-004	44.7086
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
Condo/Townhouse	6.3529	0.0685	0.5855	0.2491	3.7400e-003		0.0473	0.0473		0.0473	0.0473		747.4001	747.4001	0.0143	0.0137	751.9487
Total		**0.0726**	**0.6225**	**0.2802**	**3.9600e-003**		**0.0502**	**0.0502**		**0.0502**	**0.0502**		**791.8382**	**791.8382**	**0.0152**	**0.0145**	**796.6572**

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	lb/day										lb/day					
Mitigated	8.9225	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790	0.0000	26.0004	26.0004	0.0265	0.0000	26.5570
Unmitigated	8.9225	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790	0.0000	26.0004	26.0004	0.0265	0.0000	26.5570

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	lb/day										lb/day					
Architectural Coating	1.6153					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4612	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790		26.0004	26.0004	0.0265		26.5570
Total	**8.9225**	**0.1713**	**14.6407**	**7.6000e-004**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**26.0004**	**26.0004**	**0.0265**	**0.0000**	**26.5570**

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	lb/day										lb/day					
Architectural Coating	1.6153					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.8460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4612	0.1713	14.6407	7.6000e-004		0.0790	0.0790		0.0790	0.0790		26.0004	26.0004	0.0265		26.5570
Total	**8.9225**	**0.1713**	**14.6407**	**7.6000e-004**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**26.0004**	**26.0004**	**0.0265**	**0.0000**	**26.5570**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Old Town Village Mixed-Use Development - GHG

Santa Barbara County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	175.00	Dwelling Unit	7.00	175,000.00	476
Office Park	14.23	1000sqft	0.33	14,228.00	0
Parking Lot	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.9	**Precipitation Freq (Days)**	37
Climate Zone	8			**Operational Year**	2016
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - - Per project site plan

Land Use - - Per project site plan

Construction Phase - - Per construction timeline estimates

Energy Use -

Construction Off-road Equipment Mitigation - - Per Rule 345 - Construction Dust Control Measures

Energy Mitigation - - Project will design will exceed Title 24 by 20%

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	60.00
tblLandUse	LotAcreage	10.94	7.00
tblProjectCharacteristics	OperationalYear	2014	2016

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3240	2.7846	2.4692	2.9500e-003	0.2883	0.1539	0.4422	0.1218	0.1432	0.2649	0.0000	267.7923	267.7923	0.0577	0.0000	269.0041
2015	1.1151	4.3296	4.7091	6.2500e-003	0.2183	0.2676	0.4859	0.0584	0.2512	0.3096	0.0000	541.5941	541.5941	0.0894	0.0000	543.4705
2016	2.4697	0.0660	0.1045	1.7000e-004	8.4600e-003	4.9800e-003	0.0134	2.2500e-003	4.9700e-003	7.2200e-003	0.0000	13.3318	13.3318	1.1900e-003	0.0000	13.3567
Total	**3.9087**	**7.1802**	**7.2828**	**9.3700e-003**	**0.5151**	**0.4264**	**0.9415**	**0.1824**	**0.3994**	**0.5818**	**0.0000**	**822.7182**	**822.7182**	**0.1482**	**0.0000**	**825.8314**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3240	2.7846	2.4692	2.9500e-003	0.0837	0.1539	0.2376	0.0256	0.1432	0.1688	0.0000	267.7921	267.7921	0.0577	0.0000	269.0039
2015	1.1151	4.3296	4.7091	6.2500e-003	0.2183	0.2676	0.4859	0.0584	0.2512	0.3096	0.0000	541.5938	541.5938	0.0894	0.0000	543.4702
2016	2.4697	0.0660	0.1045	1.7000e-004	8.4600e-003	4.9800e-003	0.0134	2.2500e-003	4.9700e-003	7.2200e-003	0.0000	13.3318	13.3318	1.1900e-003	0.0000	13.3567
Total	**3.9087**	**7.1802**	**7.2828**	**9.3700e-003**	**0.3105**	**0.4264**	**0.7370**	**0.0863**	**0.3994**	**0.4856**	**0.0000**	**822.7176**	**822.7176**	**0.1482**	**0.0000**	**825.8308**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**39.71**	**0.00**	**21.73**	**52.71**	**0.00**	**16.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5857	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683
Energy	0.0159	0.1359	0.0613	8.6000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	476.2358	476.2358	0.0177	5.9100e-003	478.4403
Mobile	0.9813	2.4297	10.8880	0.0173	1.2873	0.0273	1.3146	0.3447	0.0251	0.3698	0.0000	1,369.1944	1,369.1944	0.0691	0.0000	1,370.6450
Waste						0.0000	0.0000		0.0000	0.0000	19.0263	0.0000	19.0263	1.1244	0.0000	42.6393
Water						0.0000	0.0000		0.0000	0.0000	4.9289	30.3238	35.2526	0.0184	0.0110	39.0503
Total	**2.5829**	**2.5810**	**12.2669**	**0.0182**	**1.2873**	**0.0454**	**1.3327**	**0.3447**	**0.0432**	**0.3879**	**23.9552**	**1,877.8769**	**1,901.8320**	**1.2317**	**0.0169**	**1,932.9432**

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	1.5857	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683
Energy	0.0133	0.1136	0.0511	7.2000e-004		9.1500e-003	9.1500e-003		9.1500e-003	9.1500e-003	0.0000	443.1480	443.1480	0.0169	5.3700e-003	445.1670
Mobile	0.9813	2.4297	10.8880	0.0173	1.2873	0.0273	1.3146	0.3447	0.0251	0.3698	0.0000	1,369.1944	1,369.1944	0.0691	0.0000	1,370.6450
Waste						0.0000	0.0000		0.0000	0.0000	19.0263	0.0000	19.0263	1.1244	0.0000	42.6393
Water						0.0000	0.0000		0.0000	0.0000	4.9289	30.3238	35.2526	0.0183	0.0110	39.0425
Total	**2.5803**	**2.5587**	**12.2568**	**0.0181**	**1.2873**	**0.0436**	**1.3309**	**0.3447**	**0.0414**	**0.3861**	**23.9552**	**1,844.7890**	**1,868.7442**	**1.2308**	**0.0164**	**1,899.6620**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.10**	**0.86**	**0.08**	**0.77**	**0.00**	**3.97**	**0.14**	**0.00**	**4.17**	**0.46**	**0.00**	**1.76**	**1.74**	**0.07**	**3.31**	**1.72**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/1/2014	8/14/2014	5	10	
2	Grading	Grading	8/15/2014	9/25/2014	5	30	
3	Building Construction	Building Construction	9/26/2014	11/19/2015	5	300	
4	Paving	Paving	11/20/2015	12/17/2015	5	20	
5	Architectural Coating	Architectural Coating	12/18/2015	3/10/2016	5	60	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 354,375; Residential Outdoor: 118,125; Non-Residential Indoor: 27,223; Non-Residential Outdoor: 9,074 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	185.00	42.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	37.00	0.00	0.00	12.30	4.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.2881	0.2148	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8508	18.8508	5.5700e-003	0.0000	18.9678
Total	**0.0265**	**0.2881**	**0.2148**	**2.0000e-004**	**0.0903**	**0.0157**	**0.1060**	**0.0497**	**0.0144**	**0.0641**	**0.0000**	**18.8508**	**18.8508**	**5.5700e-003**	**0.0000**	**18.9678**

3.2 Site Preparation - 2014

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	5.1000e-004	8.5000e-004	7.3600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7219	0.7219	5.0000e-005	0.0000	0.7230
Total	**5.1000e-004**	**8.5000e-004**	**7.3600e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7219**	**0.7219**	**5.0000e-005**	**0.0000**	**0.7230**

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					6.5000e-003	0.0000	6.5000e-003	3.5800e-003	0.0000	3.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0265	0.2881	0.2148	2.0000e-004		0.0157	0.0157		0.0144	0.0144	0.0000	18.8508	18.8508	5.5700e-003	0.0000	18.9678
Total	**0.0265**	**0.2881**	**0.2148**	**2.0000e-004**	**6.5000e-003**	**0.0157**	**0.0222**	**3.5800e-003**	**0.0144**	**0.0180**	**0.0000**	**18.8508**	**18.8508**	**5.5700e-003**	**0.0000**	**18.9678**

3.2 Site Preparation - 2014

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	5.1000e-004	8.5000e-004	7.3600e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7219	0.7219	5.0000e-005	0.0000	0.7230
Total	**5.1000e-004**	**8.5000e-004**	**7.3600e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7219**	**0.7219**	**5.0000e-005**	**0.0000**	**0.7230**

3.3 Grading - 2014

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1027	1.2108	0.7738	9.3000e-004		0.0582	0.0582		0.0535	0.0535	0.0000	89.1967	89.1967	0.0264	0.0000	89.7502
Total	**0.1027**	**1.2108**	**0.7738**	**9.3000e-004**	**0.1301**	**0.0582**	**0.1883**	**0.0540**	**0.0535**	**0.1075**	**0.0000**	**89.1967**	**89.1967**	**0.0264**	**0.0000**	**89.7502**

3.3 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	2.8500e-003	0.0245	3.0000e-005	2.7400e-003	3.0000e-005	2.7700e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4063	2.4063	1.8000e-004	0.0000	2.4100
Total	**1.7200e-003**	**2.8500e-003**	**0.0245**	**3.0000e-005**	**2.7400e-003**	**3.0000e-005**	**2.7700e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.4063**	**2.4063**	**1.8000e-004**	**0.0000**	**2.4100**

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					9.3700e-003	0.0000	9.3700e-003	3.8800e-003	0.0000	3.8800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1027	1.2108	0.7738	9.3000e-004		0.0582	0.0582		0.0535	0.0535	0.0000	89.1966	89.1966	0.0264	0.0000	89.7501
Total	**0.1027**	**1.2108**	**0.7738**	**9.3000e-004**	**9.3700e-003**	**0.0582**	**0.0676**	**3.8800e-003**	**0.0535**	**0.0574**	**0.0000**	**89.1966**	**89.1966**	**0.0264**	**0.0000**	**89.7501**

3.3 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	2.8500e-003	0.0245	3.0000e-005	2.7400e-003	3.0000e-005	2.7700e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4063	2.4063	1.8000e-004	0.0000	2.4100
Total	**1.7200e-003**	**2.8500e-003**	**0.0245**	**3.0000e-005**	**2.7400e-003**	**3.0000e-005**	**2.7700e-003**	**7.3000e-004**	**2.0000e-005**	**7.5000e-004**	**0.0000**	**2.4063**	**2.4063**	**1.8000e-004**	**0.0000**	**2.4100**

3.4 Building Construction - 2014

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	0.1334	1.0783	0.6531	9.3000e-004		0.0769	0.0769		0.0724	0.0724	0.0000	84.7921	84.7921	0.0216	0.0000	85.2449
Total	**0.1334**	**1.0783**	**0.6531**	**9.3000e-004**		**0.0769**	**0.0769**		**0.0724**	**0.0724**	**0.0000**	**84.7921**	**84.7921**	**0.0216**	**0.0000**	**85.2449**

3.4 Building Construction - 2014

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	0.0226	0.1432	0.2741	2.3000e-004	5.9100e-003	2.5700e-003	8.4800e-003	1.6900e-003	2.3600e-003	4.0500e-003	0.0000	20.6315	20.6315	2.4000e-004	0.0000	20.6365
Worker	0.0365	0.0605	0.5216	6.3000e-004	0.0584	5.3000e-004	0.0589	0.0155	4.8000e-004	0.0160	0.0000	51.1931	51.1931	3.7500e-003	0.0000	51.2719
Total	**0.0591**	**0.2037**	**0.7957**	**8.6000e-004**	**0.0643**	**3.1000e-003**	**0.0674**	**0.0172**	**2.8400e-003**	**0.0200**	**0.0000**	**71.8246**	**71.8246**	**3.9900e-003**	**0.0000**	**71.9083**

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	0.1334	1.0783	0.6531	9.3000e-004		0.0769	0.0769		0.0724	0.0724	0.0000	84.7920	84.7920	0.0216	0.0000	85.2448
Total	**0.1334**	**1.0783**	**0.6531**	**9.3000e-004**		**0.0769**	**0.0769**		**0.0724**	**0.0724**	**0.0000**	**84.7920**	**84.7920**	**0.0216**	**0.0000**	**85.2448**

3.4 Building Construction - 2014

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	0.0226	0.1432	0.2741	2.3000e-004	5.9100e-003	2.5700e-003	8.4800e-003	1.6900e-003	2.3600e-003	4.0500e-003	0.0000	20.6315	20.6315	2.4000e-004	0.0000	20.6365
Worker	0.0365	0.0605	0.5216	6.3000e-004	0.0584	5.3000e-004	0.0589	0.0155	4.8000e-004	0.0160	0.0000	51.1931	51.1931	3.7500e-003	0.0000	51.2719
Total	**0.0591**	**0.2037**	**0.7957**	**8.6000e-004**	**0.0643**	**3.1000e-003**	**0.0674**	**0.0172**	**2.8400e-003**	**0.0200**	**0.0000**	**71.8246**	**71.8246**	**3.9900e-003**	**0.0000**	**71.9083**

3.4 Building Construction - 2015

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	0.4226	3.4685	2.1650	3.1000e-003		0.2445	0.2445		0.2299	0.2299	0.0000	281.8135	281.8135	0.0707	0.0000	283.2983
Total	**0.4226**	**3.4685**	**2.1650**	**3.1000e-003**		**0.2445**	**0.2445**		**0.2299**	**0.2299**	**0.0000**	**281.8135**	**281.8135**	**0.0707**	**0.0000**	**283.2983**

3.4 Building Construction - 2015

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	0.0644	0.4164	0.8330	7.5000e-004	0.0198	6.1700e-003	0.0260	5.6500e-003	5.6700e-003	0.0113	0.0000	68.2376	68.2376	6.6000e-004	0.0000	68.2515
Worker	0.1059	0.1774	1.5278	2.1300e-003	0.1955	1.6500e-003	0.1971	0.0519	1.4900e-003	0.0534	0.0000	166.4299	166.4299	0.0113	0.0000	166.6673
Total	**0.1703**	**0.5938**	**2.3609**	**2.8800e-003**	**0.2153**	**7.8200e-003**	**0.2231**	**0.0576**	**7.1600e-003**	**0.0647**	**0.0000**	**234.6676**	**234.6676**	**0.0120**	**0.0000**	**234.9188**

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	0.4226	3.4685	2.1650	3.1000e-003		0.2445	0.2445		0.2299	0.2299	0.0000	281.8131	281.8131	0.0707	0.0000	283.2980
Total	**0.4226**	**3.4685**	**2.1650**	**3.1000e-003**		**0.2445**	**0.2445**		**0.2299**	**0.2299**	**0.0000**	**281.8131**	**281.8131**	**0.0707**	**0.0000**	**283.2980**

3.4 Building Construction - 2015

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	0.0644	0.4164	0.8330	7.5000e-004	0.0198	6.1700e-003	0.0260	5.6500e-003	5.6700e-003	0.0113	0.0000	68.2376	68.2376	6.6000e-004	0.0000	68.2515
Worker	0.1059	0.1774	1.5278	2.1300e-003	0.1955	1.6500e-003	0.1971	0.0519	1.4900e-003	0.0534	0.0000	166.4299	166.4299	0.0113	0.0000	166.6673
Total	**0.1703**	**0.5938**	**2.3609**	**2.8800e-003**	**0.2153**	**7.8200e-003**	**0.2231**	**0.0576**	**7.1600e-003**	**0.0647**	**0.0000**	**234.6676**	**234.6676**	**0.0120**	**0.0000**	**234.9188**

3.5 Paving - 2015

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	0.0232	0.2518	0.1498	2.2000e-004		0.0142	0.0142		0.0130	0.0130	0.0000	21.2272	21.2272	6.3400e-003	0.0000	21.3603
Paving	3.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0271**	**0.2518**	**0.1498**	**2.2000e-004**		**0.0142**	**0.0142**		**0.0130**	**0.0130**	**0.0000**	**21.2272**	**21.2272**	**6.3400e-003**	**0.0000**	**21.3603**

3.5 Paving - 2015

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	1.2500e-003	0.0107	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.8000e-004	0.0000	1.1683	1.1683	8.0000e-005	0.0000	1.1700
Total	**7.4000e-004**	**1.2500e-003**	**0.0107**	**1.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1683**	**1.1683**	**8.0000e-005**	**0.0000**	**1.1700**

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	0.0232	0.2518	0.1498	2.2000e-004		0.0142	0.0142		0.0130	0.0130	0.0000	21.2272	21.2272	6.3400e-003	0.0000	21.3603
Paving	3.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0271**	**0.2518**	**0.1498**	**2.2000e-004**		**0.0142**	**0.0142**		**0.0130**	**0.0130**	**0.0000**	**21.2272**	**21.2272**	**6.3400e-003**	**0.0000**	**21.3603**

3.5 Paving - 2015

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	1.2500e-003	0.0107	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.8000e-004	0.0000	1.1683	1.1683	8.0000e-005	0.0000	1.1700
Total	**7.4000e-004**	**1.2500e-003**	**0.0107**	**1.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.1683**	**1.1683**	**8.0000e-005**	**0.0000**	**1.1700**

3.6 Architectural Coating - 2015

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	0.4913					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0129	9.5100e-003	1.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.2766	1.2766	1.7000e-004	0.0000	1.2801
Total	**0.4933**	**0.0129**	**9.5100e-003**	**1.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**1.2766**	**1.2766**	**1.7000e-004**	**0.0000**	**1.2801**

3.6 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	1.5400e-003	0.0132	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4410	1.4410	1.0000e-004	0.0000	1.4430
Total	**9.2000e-004**	**1.5400e-003**	**0.0132**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4410**	**1.4410**	**1.0000e-004**	**0.0000**	**1.4430**

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	0.4913					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0129	9.5100e-003	1.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.2766	1.2766	1.7000e-004	0.0000	1.2801
Total	**0.4933**	**0.0129**	**9.5100e-003**	**1.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**1.2766**	**1.2766**	**1.7000e-004**	**0.0000**	**1.2801**

3.6 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	1.5400e-003	0.0132	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4410	1.4410	1.0000e-004	0.0000	1.4430
Total	**9.2000e-004**	**1.5400e-003**	**0.0132**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4410**	**1.4410**	**1.0000e-004**	**0.0000**	**1.4430**

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2100e-003	0.0593	0.0471	7.0000e-005		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003	0.0000	6.3831	6.3831	7.5000e-004	0.0000	6.3989
Total	**2.4658**	**0.0593**	**0.0471**	**7.0000e-005**		**4.9200e-003**	**4.9200e-003**		**4.9200e-003**	**4.9200e-003**	**0.0000**	**6.3831**	**6.3831**	**7.5000e-004**	**0.0000**	**6.3989**

3.6 Architectural Coating - 2016

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	3.9200e-003	6.7400e-003	0.0574	9.0000e-005	8.4600e-003	7.0000e-005	8.5300e-003	2.2500e-003	6.0000e-005	2.3100e-003	0.0000	6.9486	6.9486	4.4000e-004	0.0000	6.9578
Total	**3.9200e-003**	**6.7400e-003**	**0.0574**	**9.0000e-005**	**8.4600e-003**	**7.0000e-005**	**8.5300e-003**	**2.2500e-003**	**6.0000e-005**	**2.3100e-003**	**0.0000**	**6.9486**	**6.9486**	**4.4000e-004**	**0.0000**	**6.9578**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2100e-003	0.0593	0.0471	7.0000e-005		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003	0.0000	6.3831	6.3831	7.5000e-004	0.0000	6.3989
Total	**2.4658**	**0.0593**	**0.0471**	**7.0000e-005**		**4.9200e-003**	**4.9200e-003**		**4.9200e-003**	**4.9200e-003**	**0.0000**	**6.3831**	**6.3831**	**7.5000e-004**	**0.0000**	**6.3989**

3.6 Architectural Coating - 2016

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	3.9200e-003	6.7400e-003	0.0574	9.0000e-005	8.4600e-003	7.0000e-005	8.5300e-003	2.2500e-003	6.0000e-005	2.3100e-003	0.0000	6.9486	6.9486	4.4000e-004	0.0000	6.9578
Total	**3.9200e-003**	**6.7400e-003**	**0.0574**	**9.0000e-005**	**8.4600e-003**	**7.0000e-005**	**8.5300e-003**	**2.2500e-003**	**6.0000e-005**	**2.3100e-003**	**0.0000**	**6.9486**	**6.9486**	**4.4000e-004**	**0.0000**	**6.9578**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9813	2.4297	10.8880	0.0173	1.2873	0.0273	1.3146	0.3447	0.0251	0.3698	0.0000	1,369.1944	1,369.1944	0.0691	0.0000	1,370.6450
Unmitigated	0.9813	2.4297	10.8880	0.0173	1.2873	0.0273	1.3146	0.3447	0.0251	0.3698	0.0000	1,369.1944	1,369.1944	0.0691	0.0000	1,370.6450

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,153.25	1,253.00	1062.25	3,185,417	3,185,417
Office Park	162.48	23.33	10.81	226,094	226,094
Parking Lot	0.00	0.00	0.00		
Total	1,315.73	1,276.33	1,073.06	3,411,511	3,411,511

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	12.30	5.90	6.40	37.50	15.00	47.50	86	11	3
Office Park	8.80	4.60	4.60	33.00	48.00	19.00	82	15	3
Parking Lot	8.80	4.60	4.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.488644	0.036147	0.211789	0.155303	0.049980	0.007496	0.019734	0.013964	0.001908	0.002194	0.008100	0.001610	0.003131

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	312.0503	312.0503	0.0143	2.9700e-003	313.2715
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	319.3918	319.3918	0.0147	3.0400e-003	320.6418
NaturalGas Mitigated	0.0133	0.1136	0.0511	7.2000e-004		9.1500e-003	9.1500e-003		9.1500e-003	9.1500e-003	0.0000	131.0977	131.0977	2.5100e-003	2.4000e-003	131.8955
NaturalGas Unmitigated	0.0159	0.1359	0.0613	8.6000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	156.8440	156.8440	3.0100e-003	2.8800e-003	157.7985

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					
Condo/Townhouse	2.7694e+006	0.0149	0.1276	0.0543	8.1000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	147.7860	147.7860	2.8300e-003	2.7100e-003	148.6854
Office Park	169740	9.2000e-004	8.3200e-003	6.9900e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0580	9.0580	1.7000e-004	1.7000e-004	9.1131
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
Total		**0.0159**	**0.1359**	**0.0613**	**8.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**156.8440**	**156.8440**	**3.0000e-003**	**2.8800e-003**	**157.7985**

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					
Office Park	137869	7.4000e-004	6.7600e-003	5.6800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	7.3572	7.3572	1.4000e-004	1.3000e-004	7.4020
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
Condo/Townhouse	2.31881e+006	0.0125	0.1069	0.0455	6.8000e-004		8.6400e-003	8.6400e-003		8.6400e-003	8.6400e-003	0.0000	123.7405	123.7405	2.3700e-003	2.2700e-003	124.4935
Total		**0.0132**	**0.1136**	**0.0512**	**7.2000e-004**		**9.1500e-003**	**9.1500e-003**		**9.1500e-003**	**9.1500e-003**	**0.0000**	**131.0977**	**131.0977**	**2.5100e-003**	**2.4000e-003**	**131.8955**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	756810	216.5740	9.9600e-003	2.0600e-003	217.4216
Office Park	244295	69.9091	3.2100e-003	6.6000e-004	70.1827
Parking Lot	114998	32.9087	1.5100e-003	3.1000e-004	33.0375
Total		**319.3918**	**0.0147**	**3.0300e-003**	**320.6418**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	749908	214.5988	9.8600e-003	2.0400e-003	215.4387
Office Park	225542	64.5427	2.9700e-003	6.1000e-004	64.7953
Parking Lot	114998	32.9087	1.5100e-003	3.1000e-004	33.0375
Total		**312.0503**	**0.0143**	**2.9600e-003**	**313.2715**

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	1.5857	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683
Unmitigated	1.5857	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683

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	0.2948					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2494					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0415	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683
Total	**1.5857**	**0.0154**	**1.3177**	**7.0000e-005**		**7.1100e-003**	**7.1100e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**2.1229**	**2.1229**	**2.1600e-003**	**0.0000**	**2.1683**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2948					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2494					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0415	0.0154	1.3177	7.0000e-005		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	2.1229	2.1229	2.1600e-003	0.0000	2.1683
Total	**1.5857**	**0.0154**	**1.3177**	**7.0000e-005**		**7.1100e-003**	**7.1100e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**2.1229**	**2.1229**	**2.1600e-003**	**0.0000**	**2.1683**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	35.2526	0.0183	0.0110	39.0425
Unmitigated	35.2526	0.0184	0.0110	39.0503

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.402 / 7.18819	28.8890	0.0150	9.0100e-003	31.9973
Office Park	2.52915 / 1.55012	6.3637	3.3300e-003	2.0000e-003	7.0530
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**35.2526**	**0.0184**	**0.0110**	**39.0503**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.402 / 7.18819	28.8890	0.0150	8.9900e-003	31.9909
Office Park	2.52915 / 1.55012	6.3637	3.3100e-003	1.9900e-003	7.0516
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**35.2526**	**0.0183**	**0.0110**	**39.0425**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.0263	1.1244	0.0000	42.6393
Unmitigated	19.0263	1.1244	0.0000	42.6393

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	80.5	16.3408	0.9657	0.0000	36.6207
Office Park	13.23	2.6856	0.1587	0.0000	6.0185
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.0263**	**1.1244**	**0.0000**	**42.6393**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	80.5	16.3408	0.9657	0.0000	36.6207
Office Park	13.23	2.6856	0.1587	0.0000	6.0185
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.0263**	**1.1244**	**0.0000**	**42.6393**

9.0 Operational Offroad

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

10.0 Vegetation