

Air Quality Technical Report

for the

Bahia Resort Hotel Renovation and Expansion Project

Submitted To:

**KLR Planning, Inc.
P.O. Box 882676
San Diego, CA 92186-2676**

Prepared By:



January 29, 2018

Table of Contents

1.0	Introduction.....	1
2.0	Existing Conditions.....	2
2.1	Regulatory Framework	2
2.1.1	Federal Regulations	2
2.1.2	State Regulations	4
2.1.3	Local Regulations	10
2.2	Climate and Meteorology	11
2.3	Background Air Quality.....	12
3.0	Thresholds of Significance	14
4.0	Impacts.....	15
4.1	Consistency with the RAQS and SIP.....	15
4.2	Violation of an Air Quality Standard.....	17
4.2.1	Construction Impacts	17
4.2.2	Operational Impacts	20
4.3	Cumulatively Considerable Net Increase of Non-attainment Pollutants	21
4.4	Exposure of Sensitive Receptors to Substantial Pollutant Concentrations	22
4.5	Objectionable Odors	23
5.0	Project Design Features.....	24
6.0	Summary and Conclusions	25
7.0	References.....	26

Glossary of Terms and Acronyms

APCD	Air Pollution Control District
ARB	California Air Resources Board
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CALINE4	California Line Source Dispersion Model (Version 4)
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CO	Carbon Monoxide
EPA	United States Environmental Protection Agency
H ₂ S	Hydrogen Sulfide
mg/m ³	Milligrams per Cubic Meter
µg/m ³	Micrograms per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NOx	Oxides of Nitrogen
NO ₂	Nitrogen Dioxide
O ₃	Ozone
PM _{2.5}	Fine Particulate Matter (particulate matter with an aerodynamic diameter of 2.5 microns or less)
PM ₁₀	Respirable Particulate Matter (particulate matter with an aerodynamic diameter of 10 microns or less)
ppm	Parts per million
RAQS	San Diego County Regional Air Quality Strategy
ROCs	Reactive Organic Compounds
ROG	Reactive Organic Gases
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SO ₂	Sulfur Dioxide
TACs	Toxic Air Contaminants
T-BACT	Toxics Best Available Control Technology
VOCs	Volatile Organic Compounds

1.0 Introduction

This report presents an assessment of potential air quality impacts associated with the Bahia Resort Hotel Renovation and Expansion Project in the City of San Diego. The Bahia Resort Hotel is an existing hotel located at 998 West Mission Bay Drive, San Diego, and is currently developed with 315 rooms. The site is situated north of West Mission Bay Drive on a peninsula (Bahia Point) that separates Santa Barbara Cove and Ventura Cove in the Mission Bay Park Master Plan Area of the City of San Diego. Guest rooms are accommodated in one- and two-story buildings that are located along the east and west sides of the peninsula, as well as a five-story tower at the south end of the peninsula and a four-story tower at the north end of the peninsula.

The proposed Bahia Resort Hotel Renovation and Expansion project involves the demolition of all existing buildings, with the exception of the two tower hotel elements. The north tower, which houses 68 hotel rooms, and the south tower, which houses 76 hotel rooms, would remain. The project would develop up to 456 new hotel rooms within ten new buildings, resulting in a total of 600 hotel rooms, the maximum of hotel rooms permitted by the Mission Bay Park Master Plan for Bahia Point. Additional new facilities within the hotel would include a reception area, conference space, restaurants and retail space, and fitness amenities. Up to 710 parking spaces would be provided to serve the renovated and expanded Bahia Resort Hotel and would be located in a new parking garage located in the southern portion of the project site with three levels above grade and one-half level below grade.

The Bahia Resort Hotel Renovation and Expansion project would also expand public parking and recreational amenities available to the public. The proposed project would provide 273 public parking spaces by reconfiguring, expanding, and creating new areas for public parking. Three public parking lots would be provided off-site. The proposed project would include increasing the amount of grass areas on the west side of Bahia Point accessible to the public, providing a continuous ten-foot wide pedestrian and bicycle access path around Bahia Point, relocation and expansion of restroom facilities to the southeast portion of the peninsula, and adding a boat dock to accommodate additional watercraft.

This Air Quality Technical Report includes an evaluation of existing conditions in the project vicinity, an assessment of potential impacts associated with project construction, and an evaluation of project operational impacts.

2.0 Existing Conditions

As discussed in Section 1.0, the site is located within Mission Bay Park in the City of San Diego. The project site is currently occupied by the resort hotel complex. A portion of the hotel would be demolished to accommodate the renovation and expansion of the facility.

The following section provides information about the existing air quality regulatory framework, climate, air pollutants and sources, and sensitive receptors in the project area.

2.1 Regulatory Framework

2.1.1 Federal Regulations

Air quality is defined by ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (EPA) to be of concern with respect to health and welfare of the general public. The EPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the EPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the EPA established both primary and secondary standards for seven pollutants (called “criteria” pollutants). The seven pollutants regulated under the NAAQS are as follows: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), respirable particulate matter (or particulate matter with an aerodynamic diameter of 10 microns or less, PM_{10}), fine particulate matter (or particulate matter with an aerodynamic diameter of 2.5 microns or less, $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that do not meet the NAAQS for a particular pollutant

are considered to be “non-attainment areas” for that pollutant. The San Diego Air Basin (SDAB) has been designated a marginal non-attainment area for the 8-hour NAAQS for O₃.

The following specific descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on EPA (EPA 2007) and the California Air Resources Board (ARB) (ARB 2005).

Ozone. O₃ is considered a photochemical oxidant, which is a chemical that is formed when reactive organic gases (ROG) and oxides of nitrogen (NOx), both by-products of combustion, react in the presence of ultraviolet light. O₃ is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O₃.

Carbon Monoxide. CO is a product of combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body’s organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

Nitrogen Dioxide. NO₂ is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO₂ is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO₂ can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM₁₀, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or PM_{2.5}, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM₁₀ and PM_{2.5} arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations and windblown dust. PM₁₀ and PM_{2.5} can increase susceptibility to respiratory

infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. PM_{2.5} is considered to have the potential to lodge deeper in the lungs.

Sulfur dioxide. SO₂ is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO₂ are found near large industrial sources. SO₂ is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO₂ can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Pb in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.

2.1.2 State Regulations

California Clean Air Act. The California Clean Air Act was signed into law on September 30, 1988, and became effective on January 1, 1989. The Act requires that local air districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures. The California Clean Air Act required the SDAB to achieve a five percent annual reduction in ozone precursor emissions from 1987 until the standards are attained. If this reduction cannot be achieved, all feasible control measures must be implemented. Furthermore, the California Clean Air Act required local air districts to implement a Best Available Control Technology rule and to require emission offsets for non-attainment pollutants.

The ARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain air quality in the state. The ARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the California Ambient Air Quality Standards (CAAQS). The ARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a non-

attainment area to develop its own strategy for achieving the NAAQS and CAAQS. The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The ARB has established the more stringent CAAQS for the six criteria pollutants through the California Clean Air Act of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. The SDAB is currently classified as a non-attainment area under the CAAQS for O₃, PM₁₀, and PM_{2.5}. It should be noted that the ARB does not differentiate between attainment of the 1-hour and 8-hour CAAQS for O₃; therefore, if an air basin records exceedances of either standard the area is considered a non-attainment area for the CAAQS for O₃. The SDAB has recorded exceedances of both the 1-hour and 8-hour CAAQS for O₃. The following specific descriptions of health effects for the additional California criteria air pollutants are based on the ARB (ARB 2001).

Sulfates. Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO₂) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The ARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide. H₂S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H₂S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, an ARB committee concluded that the ambient standard for H₂S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride. Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

Visibility Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The CAAQS is intended to limit the frequency and severity of visibility impairment due to regional haze. A separate standard for visibility-reducing particles that is applicable only in the Lake Tahoe Air Basin is based on reduction in scenic quality.

Table 1 presents a summary of the ambient air quality standards adopted by the federal and California Clean Air Acts.

Table 1
Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS			
		Concentration	Method	Primary	Secondary	Method	
Ozone (O ₃)	1 hour	0.09 ppm (176 µg/m ³)	Ultraviolet Photometry	--	--	Ethylene Chemiluminescence	
	8 hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)	0.075 ppm (147 µg/m ³)		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m ³)	--	Non-Dispersive Infrared Spectroscopy (NDIR)	
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm (56 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	--	Gas Phase Chemiluminescence	
	1 hour	0.18 ppm (338 µg/m ³)		0.100 ppm (188 µg/m ³)	--		
	24 hours	0.04 ppm (105 µg/m ³)		--	--		
Sulfur Dioxide (SO ₂)	3 hours	--	Ultraviolet Fluorescence	--	0.5 ppm (1300 µg/m ³)	Pararosaniline	
	1 hour	0.25 ppm (655 µg/m ³)		0.075 ppm (196 µg/m ³)	--		
	24 hours	50 µg/m ³		150 µg/m ³	150 µg/m ³		
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	Gravimetric or Beta Attenuation	--	--	Inertial Separation and Gravimetric Analysis	
	24 hours	50 µg/m ³		150 µg/m ³	150 µg/m ³		
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12 µg/m ³	--	Inertial Separation and Gravimetric Analysis	
	24 hours	--		35 µg/m ³	--		
Sulfates	24 hours	25 µg/m ³	Ion Chromatography	--	--	--	
Lead	30-day Average	1.5 µg/m ³	Atomic Absorption	--	--	Atomic Absorption	
	Calendar Quarter	--		1.5 µg/m ³	1.5 µg/m ³		
	3-Month Rolling Average	--		0.15 µg/m ³	0.15 µg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence	--	--	--	
Vinyl Chloride	24 hours	0.010 ppm (26 µg/m ³)	Gas Chromatography	--	--	--	

ppm= parts per million; µg/m³ = micrograms per cubic meter ; mg/m³= milligrams per cubic meter

Source: California Air Resources Board, www.arb.ca.gov, 2015, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

Toxic Air Contaminants. In 1983, the California Legislature enacted a program to identify the health effects of Toxic Air Contaminants (TACs) and to reduce exposure to these contaminants to

protect the public health (AB 1807: Health and Safety Code sections 39650-39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The State of California has identified diesel particulate matter as a TAC. Diesel particulate matter is emitted from on- and off-road vehicles that utilize diesel as fuel. Following identification of diesel particulate matter as a TAC in 1998, the ARB has worked on developing strategies and regulations aimed at reducing the emissions and associated risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter from Diesel-Fueled Engines and Vehicles* (State of California 2000). A stated goal of the plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter by 75 percent by 2010 and by 85 percent by 2020. The *Risk Reduction Plan* contains the following three components:

- New regulatory standards for all new on-road, off-road and stationary diesel-fueled engines and vehicles to reduce diesel particulate matter emissions by about 90 percent overall from current levels;
- New retrofit requirements for existing on-road, off-road and stationary diesel-fueled engines and vehicles where determined to be technically feasible and cost-effective; and
- New Phase 2 diesel fuel regulations to reduce the sulfur content levels of diesel fuel to no more than 15 ppm to provide the quality of diesel fuel needed by the advanced diesel particulate matter emission controls.

As an ongoing process, the ARB reviews air contaminants and identifies those that are classified as TACs. The ARB also continues to establish new programs and regulations for the control of TACs, including diesel particulate matter, as appropriate.

The local air pollution control district (APCD) has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and

adoption and enforcement of air pollution regulations. The San Diego APCD is the local agency responsible for the administration and enforcement of air quality regulations in San Diego County.

The APCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004 and most recently in 2009 (APCD 2009). The RAQS outlines APCD's plans and control measures designed to attain the state air quality standards for O₃. The RAQS does not address the state air quality standards for PM₁₀ or PM_{2.5}. The APCD has also developed the air basin's input to the State Implementation Plan (SIP), which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards. The SIP includes the APCD's plans and control measures for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. The latest SIP update that has been approved by EPA was in 2007. The current SIP is the APCD's *Eight-Hour Ozone Attainment Plan for San Diego County* (hereinafter referred to as the Attainment Plan) (APCD 2007). The Attainment Plan forms the basis for the SIP update, as it contains documentation on emission inventories and trends, the APCD's emission control strategy, and an attainment demonstration that shows that the SDAB will meet the NAAQS for O₃. Emission inventories, projections, and trends in the Attainment Plan are based on the latest O₃ SIP planning emission projections compiled and maintained by ARB. The inventories are based on data submitted by stakeholder agencies, including the San Diego Association of Governments (SANDAG), based on growth projections in municipal General Plans.

The ARB compiles annual statewide emission inventories in its emission-related information database, the California Emission Inventory Development and Reporting System (CEIDARS). Emission projections for past and future years were generated using the California Emission Forecasting System (CEFS), developed by ARB to project emission trends and track progress towards meeting emission reduction goals and mandates. CEFS utilizes the most current growth and emissions control data available and agreed upon by the stakeholder agencies to provide comprehensive projections of anthropogenic (human activity-related) emissions for any year from 1975 through 2030. Local air districts are responsible for compiling emissions data for all point

sources and many stationary area-wide sources. For mobile sources, CEFS integrates emission estimates from ARB's EMFAC and OFFROAD models. SANDAG incorporates data regarding highway and transit projects into their Travel Demand Models for estimating and projecting vehicle miles traveled (VMT) and speed. The ARB's on-road emissions inventory in EMFAC relies on these VMT and speed estimates.

Because the ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of General Plans, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS and the Attainment Plan. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS and the Attainment Plan. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

2.1.3 Local Regulations

In San Diego County, the San Diego APCD is the regulatory agency that is responsible for maintaining air quality, including implementation and enforcement of state and federal regulations. The project site is located in the City of San Diego. The City of San Diego has adopted a General Plan that includes a Conservation Element that adopts policies to reduce air emissions and improve air quality within the City. The City has also adopted Significance Determination Thresholds with which to evaluate significance of impacts under the California Environmental Quality Act (City of San Diego 2011).

2.2 Climate and Meteorology

The project site is located in the SDAB. The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone, commonly known as smog.

Figure 1 provides a graphic representation of the prevailing winds in the project vicinity, as measured at MCAS Miramar, which representative of conditions within San Diego County.

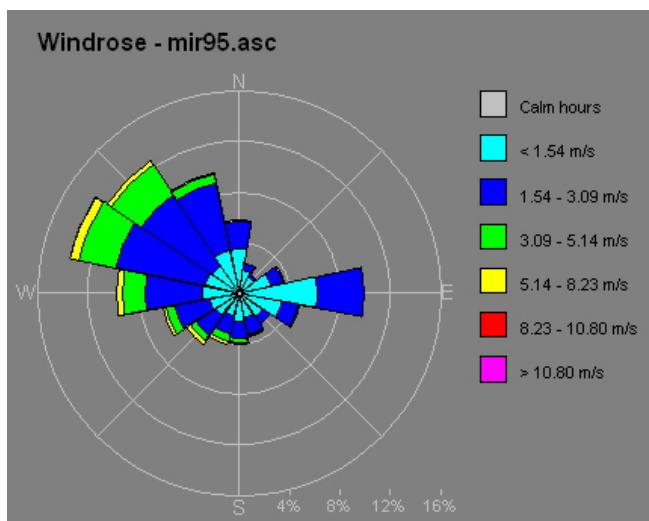


Figure 1. Wind Rose – MCAS Miramar

2.3 Background Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the downtown San Diego monitoring station, which measures O₃, NO₂, CO, SO₂, PM₁₀, and PM_{2.5}. The station ceased measuring SO₂ in 2011. Ambient concentrations of pollutants over the last three years are presented in Table 2.

The San Diego monitoring station did not measure any exceedances of the state or federal ozone standards over the three-year period from 2011 to 2013. The monitoring station measured one exceedance of the 24-hour CAAQS for PM₁₀ in 2013. The data from the monitoring station indicates that air quality is in attainment of all other air quality standards.

**Table 2
Ambient Background Concentrations**

Pollutant	2011	2012	2013
Ozone (O₃)			
Peak 1-hour value (ppm)	0.082	0.071	0.063
Days above state standard (0.09 ppm)	0	0	0
Peak 8-hour value (ppm)	0.061	0.065	0.053
Days above federal standard (0.075 ppm) ^(1,2)	0	0	0
Days above state standard (0.070 ppm)	0	0	0
Particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5})			
Peak 24-hour value ($\mu\text{g}/\text{m}^3$)	34.7	39.8	37.4
24-hour 98 th Percentile ($\mu\text{g}/\text{m}^3$)	23.5	24.1	19.6
Days above federal standard (35 $\mu\text{g}/\text{m}^3$) ⁽³⁾	0	0	0
Annual Average value ($\mu\text{g}/\text{m}^3$)	10.8	11.0	10.3
Particulate matter less than or equal to 10 microns in diameter (PM₁₀)			
Peak 24-hour value (federal) ($\mu\text{g}/\text{m}^3$) ⁽⁴⁾	48	45	90
Peak 24-hour value (state) ($\mu\text{g}/\text{m}^3$) ⁽⁴⁾	49	47	92
Days above federal standard (150 $\mu\text{g}/\text{m}^3$)	0	0	0
Days above state standard (50 $\mu\text{g}/\text{m}^3$)	0	0	1
Annual Average value (federal) ($\mu\text{g}/\text{m}^3$) ⁽⁴⁾	23.3	21.8	24.9
Annual Average value (state) ($\mu\text{g}/\text{m}^3$) ⁽⁴⁾	24.0	22.2	25.4
Carbon Monoxide (CO)			
Peak 1-hour value (ppm)	2.8	2.6	3.0
Days above federal and state standard (9 ppm)	0	0	0
Peak 8-hour value (ppm)	2.4	1.9	2.1
Days above federal standard (35 ppm)	0	0	NA
Days above state standard (20 ppm)	0	0	NA
Nitrogen Dioxide (NO₂)			
Peak 1-hour value (ppm)	0.067	0.065	0.072

Table 2
Ambient Background Concentrations

Pollutant	2011	2012	2013
Days above federal standard (0.100 ppm)	0	0	0
Days above state standard (0.18 ppm)	0	0	0
Annual Average value (ppm)	0.014	0.013	0.014
Sulfur Dioxide (SO₂)			
Peak 1-hour value (ppm)	0.004	NA	NA
Days above federal standard (0.075 ppm) ⁽⁵⁾	0	NA	NA
Peak 24-hour value (ppm)	0.003	NA	NA
Days above state standard (0.04 ppm)	0	NA	NA
Annual Average value (ppm)	0.000	NA	NA

Notes:

- (1) The federal 8-hour O₃ standard was revised downward in 2008 to 0.075 ppm.
- (2) The federal 8-hour O₃ standard was previously defined as 0.08 ppm (1 significant digit). Measurements were rounded up or down to determine compliance with the standard; therefore a measurement of 0.084 ppm is rounded to 0.08 ppm. The 8-hour O₃ ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to the standard.
- (3) The federal PM_{2.5} standard was revised downward in 2007 to 35 µg/m³. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- (4) State and federal statistics may differ for the following reasons: (1) State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and federal statistics may therefore be based on different samplers. (2) State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
- (5) The federal 1-hour SO₂ standard was adopted in 2010.

ppm = parts per million; µg/m³ = micrograms per cubic meter; NA = data not available

Source: ARB <http://www.arb.ca.gov/adam/topfour/topfourdisplay.php>; Five-Year Summary, <http://www.sdapcd.org/info/reports/5-year-summary.pdf>.

3.0 Thresholds of Significance

The City of San Diego has adopted its Significance Determination Thresholds (City of San Diego 2011) that are based on Appendix G of the State CEQA Guidelines. According to the Significance Determination Thresholds, a project would have a significant environmental impact if the project would result in:

- A conflict with or obstruct the implementation of the applicable air quality plan;
- A violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Exposing sensitive receptors to substantial pollutant concentrations;
- Creating objectionable odors affecting a substantial number of people;
- Exceeding 100 pounds per day of particulate matter (PM) (dust); or
- Substantial alteration of air movement in the area of the project.

In their Significance Determination Thresholds, the City of San Diego has adopted emission thresholds based on the thresholds for an Air Quality Impact Assessment in the San Diego Air Pollution Control District's Rule 20.2. These thresholds are shown in Table 3.

**Table 3
Significance Criteria for Air Quality Impacts**

Pollutant	Emission Rate		
	Lbs/Hr	Lbs/Day	Tons/Year
Carbon Monoxide (CO)	100	550	100
Oxides of Nitrogen (NOx)	25	250	40
Respirable Particulate Matter (PM ₁₀)	--	100	15
Oxides of Sulfur (SOx)	25	250	40
Lead and Lead Compounds	--	3.2	0.6
Fine Particulate Matter (PM _{2.5})	--	55	10
Volatile Organic Compounds (VOCs)	--	137	15

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or Hazardous Air Pollutants (HAPs). If a project has the potential to result in emissions of any TAC or HAP which

may expose sensitive receptors to substantial pollutant concentrations, the project would be deemed to have a potentially significant impact. With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality.

With regard to odor impacts, a project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of offsite receptors.

The impacts associated with construction and operation of the project were evaluated for significance based on these significance criteria.

The impacts associated with construction and operation of the project were evaluated for significance based on these significance criteria.

4.0 Impacts

The Bahia Resort Hotel Renovation and Expansion Project would result in both construction and operational impacts. Construction impacts include emissions associated with the construction of the project. Operational impacts include emissions associated with the project, including traffic, at full buildout. The following sections present the analysis of air quality impacts based on the City's Significance Determination Thresholds.

4.1 Consistency with the RAQS and SIP

The Proposed Project would have a significant impact if it conflicts with or obstructs implementation of the applicable air quality plans (the RAQS and SIP).

As discussed in Section 2.1, the SIP is the document that sets forth the state's strategies for attaining and maintaining the NAAQS. The APCD is responsible for developing the San Diego

portion of the SIP, and has developed an attainment plan for attaining the 8-hour NAAQS for O₃. The RAQS sets forth the plans and programs designed to meet the state air quality standards. Through the RAQS and SIP planning processes, the APCD adopts rules, regulations, and programs designed to achieve attainment of the ambient air quality standards and maintain air quality in the SDAB.

Conformance with the RAQS and SIP determines whether a Project will conflict with or obstruct implementation of the applicable air quality plans. Because the CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the City of San Diego as part of the development of General Plans, projects that propose development that is consistent with the growth anticipated by the general plan would be consistent with the RAQS and SIP. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS and SIP.

The RAQS and SIP address air emissions and impacts from industrial sources, area-wide sources, and mobile sources. The programs also consider transportation control measures and indirect source review. Industrial sources are typically stationary air pollution sources that are subject to APCD rules and regulations, and over which the APCD has regulatory authority. Area-wide sources include sources such as consumer products use, small utility engines, hot water heaters, and furnaces. Both the ARB and the APCD have authority to regulate these sources and have developed plans and programs to reduce emissions from certain types of area-wide sources. Mobile sources are principally emissions from motor vehicles. The ARB establishes emission standards for motor vehicles and establishes regulations for other mobile source activities including off-road vehicles.

Both the RAQS and SIP address emissions of ozone precursors (ROG and NOx), as the SDAB is classified as a basic non-attainment area for the NAAQS and a non-attainment area for the CAAQS. The RAQS and SIP do not address particulate matter. The California CAA requires an air quality strategy to achieve a 5% average annual ozone precursor emission reduction when implemented or, if that is not achievable, an expeditious schedule for adopting every feasible

emission control measure under air district purview (California Health and Safety Code (H&SC) Section 40914). The current RAQS represents an expeditious schedule for adopting feasible control measures, since neither San Diego nor any air district in the State has demonstrated sustained 5% average annual ozone precursor reductions.

Most of the control measures adopted in the RAQS apply to industrial sources and specific source categories. SDAPCD Rule 55 would apply to construction of the project, and requires control of fugitive dust during construction. Should the properties include stationary sources such as boilers or emergency generators, these sources would be subject to SDAPCD rules and would be required to obtain a permit to operate.

The project is consistent with the land use at the site, and would continue to operate the resort. The renovation and expansion would improve the project facilities, but would be consistent with the existing zone and land use designation; therefore, a Rezone and Community Plan Amendment would not be required. Accordingly, the project is consistent with the City's General Plan and would therefore be consistent with the RAQS and SIP. The proposed Project would not conflict with or obstruct implementation of the RAQS or SIP, and would not result in a significant impact.

4.2 Violation of an Air Quality Standard

The Proposed Project would have a significant impact if it violates any air quality standard or contributes substantially to an existing or projected air quality violation.

To address this significance threshold, an evaluation of emissions associated with both the construction and operational phases of the Project was conducted.

4.2.1 Construction Impacts

Emissions of pollutants such as fugitive dust and heavy equipment exhaust that are generated during construction are generally highest near the construction site. Emissions from the construction of the project were estimated using the CalEEMod Model (ENVIRON 2013), Version 2013.2. The CalEEMod Model provides default assumptions regarding horsepower rating, load

factors for heavy equipment, and hours of operation per day. Default assumptions within the CalEEMod Model and assumptions for similar projects were used to represent operation of heavy construction equipment. Construction calculations within the CalEEMod Model utilize the number and type of construction equipment to calculate emissions from heavy construction equipment. Fugitive PM₁₀ and PM_{2.5} emissions estimates take into account compliance with Rule 55 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

In addition to calculating emissions from heavy construction equipment, the CalEEMod Model contains calculation modules to estimate emissions of fugitive dust, based on the amount of earthmoving or surface disturbance required; emissions from heavy-duty truck trips or vendor trips during construction activities; emissions from construction worker vehicles during daily commutes; and emissions of ROG during application of architectural coatings. As part of the project design features, it was assumed that standard dust control measures (watering three times daily; reducing speeds to 15 mph on unpaved surfaces) and architectural coatings that comply with SDAPCD Rule 67.0 (assumed to meet a VOC content of 100 g/l for interior painting and 150 g/l for exterior painting) would be used during construction.

Table 4 provides the detailed construction emission estimates as calculated with the CalEEMod Model. Appendix A provides CalEEMod Model outputs showing the construction calculations. As shown in Table 4, emissions of criteria pollutants during construction would be below the thresholds of significance for all project construction phases for all pollutants. Project criteria pollutant emissions during construction would be temporary and are less than significant.

Table 4
Estimated Maximum Daily Construction Emissions
Bahia Resort Hotel Renovation and Expansion Project

Emission Source	ROG	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}
<i>Demolition</i>						
Fugitive Dust	-	-	-	-	0.81	0.12
Offroad Equipment	4.29	45.66	35.03	0.04	2.29	2.14
Onroad Emissions	0.19	2.66	1.90	0.01	0.20	0.08
Worker Trips	0.05	0.06	0.67	0.00	0.12	0.03
Subtotal	4.53	48.38	37.60	0.05	3.42	2.37
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<i>Grading</i>						
Fugitive Dust	-	-	-	-	2.76	1.33
Offroad Equipment	6.48	74.81	49.14	0.06	3.58	3.30
Worker Trips	0.07	0.08	0.89	0.00	0.17	0.04
Subtotal	6.55	74.89	50.03	0.06	6.51	4.67
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<i>Building Construction</i>						
Offroad Equipment	3.41	28.51	18.51	0.03	1.97	1.85
Vendor Trips	1.80	16.40	19.24	0.04	1.40	0.56
Worker Trips	1.55	1.82	19.82	0.05	3.67	0.99
Subtotal	6.76	46.73	57.57	0.12	7.04	3.40
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<i>Paving</i>						
Asphalt Offgassing	0.03	-	-	-	-	-
Offroad Equipment	1.91	20.30	14.73	0.02	1.14	1.05
Worker Trips	0.05	0.06	0.61	0.00	0.12	0.03
Subtotal	1.99	20.36	15.34	0.02	1.26	1.08
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<i>Architectural Coatings Application</i>						
Architectural Coatings	50.77	-	-	-	-	-
Offroad Equipment	0.33	2.19	1.87	0.00	0.17	0.17
Worker Trips	0.28	0.33	3.60	0.01	0.74	0.20
Subtotal	51.38	2.52	5.47	0.01	0.91	0.37
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Maximum Daily Emissions^a	59.54	121.62	107.60	0.18	13.54	8.07
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

^aMaximum daily VOC emissions occur during simultaneous architectural coatings application and building construction. Maximum daily PM₁₀ and PM_{2.5} emissions occur during grading and paving. Maximum emissions of other criteria pollutants occur during building construction.

4.2.2 Operational Impacts

Operational impacts associated with the Bahia Resort Hotel Renovation and Expansion Project would include impacts associated with vehicular traffic, as well as area sources such as energy use, landscaping, consumer products use, and architectural coatings use for maintenance purposes.

Operational impacts associated with vehicular traffic and area sources including energy use, landscaping, and architectural coatings use for maintenance purposes were estimated using the CalEEMod Model, Version 2013.2. The CalEEMod Model calculates vehicle emissions based on emission factors from the EMFAC2011 model. It was assumed that the first year of full occupancy would be 2015. Based on the results of the EMFAC2011 model for subsequent years, emissions would decrease on an annual basis from 2015 onward due to phase-out of higher polluting vehicles and implementation of more stringent emission standards that are taken into account in the EMFAC2007 model. Table 5 presents the results of the emission calculations, in lbs/day, for the Bahia Resort Hotel Renovation and Expansion Project.

Based on the estimated emissions associated with Project operations, the emissions of all criteria pollutants are below the significance thresholds for the project. Impacts would be less than significant.

Table 5
Operational Emissions
Bahia Resort Hotel Renovation and Expansion Project

	ROG	NOx	CO	SOx	PM₁₀	PM_{2.5}
<i>Maximum Daily Emissions</i>						
Summer Day, Lbs/day						
Area Sources	28.63	0.00	0.15	0.00	0.00	0.00
Energy Use	1.04	9.49	7.98	0.06	0.72	0.72
Vehicular Emissions	11.17	19.60	94.48	0.20	13.53	3.78
TOTAL	40.84	29.09	102.61	0.26	14.26	4.50
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Winter Day, Lbs/day						
Area Sources	28.63	0.00	0.15	0.00	0.00	0.00
Energy Use	1.04	9.49	7.98	0.06	0.72	0.72
Vehicular Emissions	12.04	20.78	103.92	0.19	13.54	3.78
TOTAL	41.71	30.27	112.04	0.25	14.26	4.50
Significance Criteria	137	250	550	250	100	55
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO “hot spots.” To verify that the project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO “hot spots” was conducted. Project-related traffic would have the potential to result in CO “hot spots” if project-related traffic resulted in a degradation in the level of service at any intersection to LOS E or F. The Traffic Impact Analysis evaluated whether or not there would be a decrease in the level of service at the intersections affected by the Project.

Based on the Traffic Impact Analysis (Linscott, Law & Greenspan 2014), there are no significant unmitigable intersection impacts for the Project for any study intersections. Therefore, the Project would not result in CO “hot spots” and no further analysis is warranted.

4.3 Cumulatively Considerable Net Increase of Non-attainment Pollutants

The Proposed Project would have a significant impact if it results in a cumulatively considerable net increase of any 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).

As discussed in Section 2.0, the SDAB is considered a non-attainment area for the 8-hour NAAQS for O₃, and is considered a non-attainment area for the CAAQS for O₃, PM₁₀, and PM_{2.5}. An evaluation of emissions of non-attainment pollutants was conducted in Section 4.2. Based on that evaluation, emissions of non-attainment pollutants during construction would be below the significance thresholds for ozone precursors, PM₁₀, and PM_{2.5}. Emissions of all pollutants would be below the significance thresholds for operations.

The area surrounding the Bahia Resort Hotel is isolated from other areas, as the site is dedicated to the hotel itself. Therefore, there are no projects in the immediate vicinity that would be developed at the same time that would have the potential for cumulative impacts. Because operational emissions for development of the project are below the significance thresholds for nonattainment pollutants, they would not result in a cumulatively considerable impact.

4.4 Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

The Proposed Project would have a significant impact if it exposes sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, parks, or day-care centers) to substantial pollutant concentrations.

The threshold concerns whether the project could expose sensitive receptors to substantial pollutant concentrations of TACs. If a project has the potential to result in emissions of any TAC which result in a cancer risk of greater than 10 in 1 million or substantial non-cancer risk, the project would be deemed to have a potentially significant impact.

Air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Residential land uses may also be considered sensitive receptors. The nearest sensitive receptors are residences located along Bayside Walk to the west of the resort, across Santa Barbara Cove. The nearest residence is located approximately 400 feet west of the resort property.

Emissions of TACs are attributable to temporary emissions from construction emissions, and minor emissions associated with diesel truck traffic used for deliveries at the site. Truck traffic may result in emissions of diesel particulate matter, which is characterized by the State of California as a toxic air contaminant (TAC). Certain types of projects are recommended to be evaluated for impacts associated with TACs. In accordance with the SCAQMD's "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis" (SCAQMD 2003), projects that should be evaluated for diesel particulate emissions include truck stops, distribution centers, warehouses, and transit centers which diesel vehicles would utilize and which would be sources of diesel particulate matter from heavy-duty diesel trucks. The Bahia Resort Hotel Renovation and Expansion Project would not attract a disproportionate amount of diesel trucks and would not be considered a source of TAC emissions. Based on the CalEEMod Model, heavy-duty diesel trucks would account for only 0.9 percent of the total trips associated with the project. Impacts to sensitive receptors from TAC emissions would therefore be less than significant.

4.5 Objectionable Odors

The Proposed Project would have a significant impact if it creates objectionable odors affecting a substantial number of people.

Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. These compounds would be emitted in various amounts and at various locations during construction. Sensitive receptors located in the vicinity of the construction site include the residences to the south of the site. Odors are highest near the source and would quickly dissipate offsite; any odors associated with construction would be temporary.

The Bahia Resort Hotel Renovation and Expansion Project would not be considered a source of objectionable odors. Thus the potential for odor impacts associated with the project is less than significant.

5.0 Project Design Features

Standard best management practices to reduce construction emissions will be employed during construction and operation of the project. The Project is subject to the requirements of San Diego APCD Rule 55, which requires that no visible dust be present beyond the site boundaries. Standard dust control measures will be employed during construction. These standard dust control measures include the following:

- Watering active grading sites a minimum of three times daily
- Apply soil stabilizers to inactive construction sites
- Replace ground cover in disturbed areas as soon as possible
- Control dust during equipment loading/unloading (load moist material, ensure at least 12 inches of freeboard in haul trucks)
- Reduce speeds on unpaved roads to 15 mph or less
- Water unpaved roads a minimum of three times daily

These dust control measures will reduce the amount of fugitive dust generated during construction. In addition to dust control measures, architectural coatings applied to interior and exterior surfaces will be required to meet the ROG limitations of SDAPCD Rule 67.0, which limits the ROG content of most coatings to 150 grams/liter. Coatings will also be applied using high volume, low pressure spray equipment to reduce overspray to the extent possible.

Operational emissions would be below the significance thresholds for all pollutants. Air quality impacts are less than significant and no mitigation measures are required.

6.0 Summary and Conclusions

In summary, the proposed project would result in emissions of air pollutants for both the construction phase and operational phase of the project. The air quality impact analysis evaluated the potential for adverse impacts to the ambient air quality due to construction and operational emissions. Construction emissions would include emissions associated with fugitive dust, heavy construction equipment and construction worker commuting to and from the site. The project would employ dust control measures such as watering to control emissions during construction and use of low-ROG paints. Emissions are less than the significance thresholds for all pollutants during construction. Construction impacts are less than significant and would not be cumulatively considerable.

Operational emissions would include emissions associated with residential, office and retail operations, including area sources, energy use, and vehicle traffic. As discussed in Section 4.0, the impacts would be below the significance thresholds for all pollutants. Impacts from project-related traffic were evaluated to assess whether impacts would exceed the ambient air quality standards for CO, and it was demonstrated that emissions of CO would not result in a significant air quality impact or a cumulatively considerable impact.

Emissions of TACs or odors would not result in a significant impact to the project, and project emissions of TACs and odors would be less than significant.

7.0 References

- California Air Resources Board. 2005. *ARB Fact Sheet: Air Pollution and Health*. December 27.
- California Air Resources Board. 2007. EMFAC2007 Emissions Model.
- California Department of Transportation. 1998. Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol.
- City of San Diego. 2011. *Significance Determination Thresholds*.
- ENVIRON. 2013. CalEEMod Model, Version 2013.2
- Linscott, Law, & Greenspan. 2014. *Bahia Resort Hotel Expansion – Baseline Volumes Comparison*. November 7.
- San Diego Air Pollution Control District. 2009. *2009 Regional Air Quality Strategy Revision*. April 22.
- South Coast Air Quality Management District. 1999. CEQA Air Quality Handbook. (as updated)
- South Coast Air Quality Management District. 2006. Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds. October.
- South Coast Air Quality Management District. 2011. SCAQMD Air Quality Significance Thresholds. <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>. March.
- U.S. EPA. 2007. *The Plain English Guide to the Clean Air Act*.
<http://www.epa.gov/air/caa/peg/index.html>.
- University of California Davis. 1998. Caltrans ITS Transportation Project-Level Carbon Monoxide Protocol.

Appendix A

CalEEMod Model Output

Bahia Resort Expansion Project

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	456.00	Room	15.20	662,112.00	0
Unenclosed Parking Structure	710.00	Space	6.39	284,000.00	0
Parking Lot	273.00	Space	2.46	109,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumed construction schedule

Demolition - Assumed 171 rooms to be demolished, plus ancillary facilities

Architectural Coating - Rule 67.0 coatings

Vehicle Trips - Based on traffic analysis, 8 trips per room

Vechicle Emission Factors - Based on Business as Usual GHG emission factors

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - Assuming baseline Title 24 as of 2005

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	NumDays	370.00	391.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	35.00	89.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseEndDate	12/29/2017	9/30/2017
tblConstructionPhase	PhaseEndDate	2/26/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/1/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblEnergyUse	LightingElect	5.43	5.08
tblEnergyUse	T24E	6.29	5.84
tblEnergyUse	T24NG	50.49	49.75
tblGrading	AcresOfGrading	222.50	87.50
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.01	0.01

tblVehicleEF	HHD	1,639.66	1,538.82
tblVehicleEF	HHD	55.80	55.97
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	277.68	355.12
tblVehicleEF	LDA	59.47	58.10
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	332.85	411.13
tblVehicleEF	LDT1	70.71	70.59
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	404.75	483.82
tblVehicleEF	LDT2	85.80	86.11
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	775.07	586.97
tblVehicleEF	LHD1	38.34	40.66
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	657.89	621.96
tblVehicleEF	LHD2	23.51	24.75
tblVehicleEF	MCY	160.50	158.11
tblVehicleEF	MCY	42.23	42.79
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	537.67	617.11
tblVehicleEF	MDV	112.75	114.79
tblVehicleEF	MH	719.24	681.53
tblVehicleEF	MH	30.53	31.39

tblVehicleEF	MHD	6.9320e-003	5.7667e-003
tblVehicleEF	MHD	1,055.21	991.19
tblVehicleEF	MHD	55.21	55.33
tblVehicleEF	OBUS	2.8990e-003	3.2067e-003
tblVehicleEF	OBUS	1,091.88	1,036.55
tblVehicleEF	OBUS	34.93	36.45
tblVehicleEF	SBUS	7.7060e-003	5.9922e-003
tblVehicleEF	SBUS	1,090.44	1,011.31
tblVehicleEF	SBUS	131.47	129.70
tblVehicleEF	UBUS	2,112.22	1,960.19
tblVehicleEF	UBUS	24.26	25.31
tblVehicleTrips	ST_TR	8.19	8.00
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

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						
2016	13.3088	121.6150	107.6025	0.1779	12.0164	5.8281	17.8445	4.7593	5.4002	10.1595	0.0000	17,233.15	17,233.150	2.8304	0.0000	17,292.588	
2017	59.5412	65.5881	74.9216	0.1501	5.6418	3.3409	8.9827	1.5195	3.1217	4.6412	0.0000	13,827.70	13,827.709	1.6287	0.0000	13,861.911	
Total	72.8500	187.2032	182.5240	0.3280	17.6582	9.1690	26.8272	6.2788	8.5219	14.8007	0.0000	31,060.85	31,060.859	4.4591	0.0000	31,154.500	
											93	3				5	

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						
2016	13.3088	121.6150	107.6025	0.1779	7.7069	5.8281	13.5350	2.6713	5.4002	8.0715	0.0000	17,233.15	17,233.150	2.8304	0.0000	17,292.588	
2017	59.5412	65.5881	74.9216	0.1501	5.6418	3.3409	8.9827	1.5195	3.1217	4.6412	0.0000	13,827.70	13,827.709	1.6287	0.0000	13,861.911	
Total	72.8500	187.2032	182.5240	0.3280	13.3488	9.1690	22.5177	4.1908	8.5219	12.7127	0.0000	31,060.85	31,060.859	4.4591	0.0000	31,154.500	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	24.40	0.00	16.06	33.25	0.00	14.11	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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004	5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004		0.3333		
Energy	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225	0.8225	0.8225		12,986.14	12,986.145	0.2489	0.2381	13,065.176		
Mobile	11.4621	21.1523	101.0192	0.2206	14.6655	0.2732	14.9387	3.9150	0.2515	4.1664		18,602.53	18,602.535	0.7717		18,618.742	
Total	41.2785	31.9755	110.2592	0.2855	14.6655	1.0962	15.7617	3.9150	1.0745	4.9894		31,588.99	31,588.995	1.0215	0.2381	31,684.251	

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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004	5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004		0.3333		
Energy	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216	0.7216	0.7216		11,393.55	11,393.555	0.2184	0.2089	11,462.894	3	
Mobile	11.1731	19.5953	94.4825	0.2007	13.2841	0.2501	13.5342	3.5462	0.2302	3.7764	16,921.57	16,921.576	0.7098		16,936.481	6	
Total	40.8436	29.0914	102.6076	0.2577	13.2841	0.9723	14.2563	3.5462	0.9524	4.4985	28,315.44	28,315.446	0.9290	0.2089	28,399.709	2	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.05	9.02	6.94	9.76	9.42	11.31	9.55	9.42	11.37	9.84	0.00	10.36	10.36	9.05	12.26	10.37

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/28/2016	5	41	
2	Grading	Grading	2/29/2016	6/30/2016	5	89	
3	Building Construction	Building Construction	4/1/2016	9/30/2017	5	391	
4	Paving	Paving	1/1/2017	9/30/2017	5	195	
5	Architectural Coating	Architectural Coating	1/1/2017	9/30/2017	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,424,082; Non-Residential Outdoor: 474,694 (Architectural Coating)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
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
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
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
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
Demolition	6	15.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	443.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	89.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 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						
Fugitive Dust					2.0784	0.0000	2.0784	0.3147	0.0000	0.3147			0.0000			0.0000	
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.284	4,089.2841	1.1121			4,112.6374
Total	4.2876	45.6559	35.0303	0.0399	2.0784	2.2921	4.3705	0.3147	2.1365	2.4513		4,089.284	4,089.2841	1.1121			4,112.6374

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	0.1860	2.6588	1.8980	7.1000e-003	0.1653	0.0363	0.2017	0.0453	0.0334	0.0787		715.0744	715.0744	5.0900e-003			715.1812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		130.2798	130.2798	6.5300e-003			130.4169
Total	0.2384	2.7203	2.5691	8.6600e-003	0.2885	0.0373	0.3258	0.0780	0.0343	0.1122		845.3541	845.3541	0.0116			845.5981

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					0.8106	0.0000	0.8106	0.1228	0.0000	0.1228			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.284	4,089.2841	1.1121		14,112.6374
Total	4.2876	45.6559	35.0303	0.0399	0.8106	2.2921	3.1027	0.1228	2.1365	2.2593	0.0000	4,089.284	4,089.2841	1.1121		4,112.6374

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	0.1860	2.6588	1.8980	7.1000e-003	0.1653	0.0363	0.2017	0.0453	0.0334	0.0787	715.0744	715.0744	5.0900e-003			715.1812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003			130.4169
Total	0.2384	2.7203	2.5691	8.6600e-003	0.2885	0.0373	0.3258	0.0780	0.0343	0.1122	845.3541	845.3541	0.0116			845.5981

3.3 Grading - 2016

Unmitigated Construction On-Site

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

Category	lb/day										lb/day					
	Fugitive Dust					7.0647	0.0000	7.0647	3.4228	0.0000	3.4228			0.0000		0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	6.4795	74.8137	49.1374	0.0617	7.0647	3.5842	10.6490	3.4228	3.2975	6.7203		6,414.9807	6,414.9807	1.9350		6,455.6154

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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	173.7064	173.7064	8.7000e-003			173.8892	
Total	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447			173.7064	173.7064	8.7000e-003		173.8892

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	0.0000	0.0000	0.0000	0.0000	2.7552	0.0000	2.7552	1.3349	0.0000	1.3349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154

Total	6.4795	74.8137	49.1374	0.0617	2.7552	3.5842	6.3395	1.3349	3.2975	4.6324	0.0000	6,414.9807 7	6,414.9807	1.9350		6,455.6154
-------	--------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	-----------------	------------	--------	--	------------

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	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	
Worker	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	173.7064	173.7064	8.7000e-003	173.8892		
Total	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	173.7064	173.7064	8.7000e-003		173.8892	

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	2,669.286	2,669.2864	0.6620		2,683.1890	
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	2,669.286	2,669.2864	0.6620		2,683.1890	

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	0.0000	0.0000	
Vendor	1.8046	16.3957	19.2447	0.0412	1.1483	0.2479	1.3962	0.3276	0.2280	0.5556	4,127.580	4,127.5802	0.0319	4,128.2501	2		
Worker	1.5486	1.8173	19.8190	0.0461	3.6391	0.0273	3.6665	0.9653	0.0251	0.9904	3,847.596	3,847.5966	0.1928	3,851.6449	6		
Total	3.3532	18.2129	39.0637	0.0873	4.7874	0.2752	5.0627	1.2929	0.2531	1.5460	7,975.176	7,975.1768	0.2247	7,979.8950	8		

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.286	2,669.2864	0.6620		2,683.1890	
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.286	2,669.2864	0.6620		2,683.1890	

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	0.0000
Vendor	1.8046	16.3957	19.2447	0.0412	1.1483	0.2479	1.3962	0.3276	0.2280	0.5556	4,127.580	4,127.5802	0.0319	2	4,128.2501
Worker	1.5486	1.8173	19.8190	0.0461	3.6391	0.0273	3.6665	0.9653	0.0251	0.9904	3,847.596	3,847.5966	0.1928	6	3,851.6449
Total	3.3532	18.2129	39.0637	0.0873	4.7874	0.2752	5.0627	1.2929	0.2531	1.5460	7,975.176	7,975.1768	0.2247	8	7,979.8950

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	2,639.805	2,639.8053	0.6497	3	2,653.4490	
Total	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	2,639.805	2,639.8053	0.6497	3	2,653.4490	

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	0.0000	
Vendor	1.6542	14.6618	18.0636	0.0411	1.1483	0.2152	1.3636	0.3276	0.1979	0.5256	4,057.851	4,057.8514	0.0302	4	4,058.4845	
Worker	1.4075	1.6515	17.9255	0.0461	3.6391	0.0265	3.6656	0.9653	0.0244	0.9897	3,699.127	3,699.1273	0.1784	3	3,702.8729	
Total	3.0617	16.3133	35.9891	0.0872	4.7875	0.2417	5.0292	1.2929	0.2223	1.5152	7,756.978	7,756.9787	0.2085	7	7,761.3574	

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	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.805	2,639.8053	0.6497		2,653.4490	
Total	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.805	2,639.8053	0.6497		2,653.4490	

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	0.0000	0.0000	
Vendor	1.6542	14.6618	18.0636	0.0411	1.1483	0.2152	1.3636	0.3276	0.1979	0.5256	4,057.851	4,057.8514	0.0302			4,058.4845	
Worker	1.4075	1.6515	17.9255	0.0461	3.6391	0.0265	3.6656	0.9653	0.0244	0.9897	3,699.127	3,699.1273	0.1784			3,702.8729	
Total	3.0617	16.3133	35.9891	0.0872	4.7875	0.2417	5.0292	1.2929	0.2223	1.5152	7,756.978	7,756.9787	0.2085			7,761.3574	

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	2,281.058	2,281.0588	0.6989			2,295.7360	
Paving	0.0331					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	1.9404	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	2,281.058	2,281.0588	0.6989			2,295.7360	

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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		125.2526	125.2526	6.0400e-003		125.3794	
Total	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		125.2526	125.2526	6.0400e-003		125.3794	

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.058	2,281.0588	0.6989		2,295.7360	

Paving	0.0331				0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Total	1.9404	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989	2,295.7360

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	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	
Worker	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335	125.2526	125.2526	6.0400e-003	125.3794		
Total	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335	125.2526	125.2526	6.0400e-003	125.3794		

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	50.7740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297	282.0721		
Total	51.1063	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297	282.0721		

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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.2828	0.3318	3.6013	9.2600e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	743.1655	743.1655	0.0358	743.9180			
Total	0.2828	0.3318	3.6013	9.2600e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	743.1655	743.1655	0.0358			743.9180	

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	50.7740						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733	0.1733	0.1733	0.1733	0.0000	281.4481	281.4481	0.0297	282.0721		
Total	51.1063	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721	

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	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
Worker	0.2828	0.3318	3.6013	9.2600e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	0.03	743.1655	743.1655	0.0358	743.9180
Total	0.2828	0.3318	3.6013	9.2600e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	0.03	743.1655	743.1655	0.0358	743.9180

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	11.1731	19.5953	94.4825	0.2007	13.2841	0.2501	13.5342	3.5462	0.2302	3.7764	16,921.57	16,921.576	0.7098	64	4	16,936.481
Unmitigated	11.4621	21.1523	101.0192	0.2206	14.6655	0.2732	14.9387	3.9150	0.2515	4.1664	18,602.53	18,602.535	0.7717	53	3	18,618.742

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Hotel	3,648.00	3,648.00	3648.00	6,930,947	6,930,947	6,278,093	6,278,093
Parking Lot	0.00	0.00	0.00				
Unenclosed Parking Structure	0.00	0.00	0.00				
Total	3,648.00	3,648.00	3,648.00	6,930,947	6,930,947	6,278,093	6,278,093

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216		0.7216	0.7216	11,393.55	11,393.555	0.2184	0.2089	3	11,462.894
NaturalGas Unmitigated	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225		0.8225	0.8225	12,986.14	12,986.145	0.2489	0.2381	6	13,065.176

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						
Unenclosed Parking Structure	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	0.0000	0.0000	
Hotel	110382	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225	0.8225	0.8225	0.8225	12,986.145	12,986.14	0.2489	0.2381	13,065.176	6	
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	0.0000	
Total		1.1904	10.8218	9.0903	0.0649		0.8225	0.8225		0.8225	0.8225		12,986.145	12,986.14	0.2489	0.2381	13,065.176	6

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						
Hotel	96.8452	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216		0.7216	0.7216	11,393.555	11,393.55	0.2184	0.2089	11,462.894	3	
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	
Unenclosed Parking Structure	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		1.0444	9.4946	7.9755	0.0570		0.7216	0.7216		0.7216	0.7216		11,393.555	11,393.55	0.2184	0.2089	11,462.894	3

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive 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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	
Unmitigated	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	

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	6.0280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Consumer Products	22.5837					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Landscaping	0.0145	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	
Total	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	

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	6.0280				0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Consumer Products	22.5837				0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Landscaping	0.0145	1.4200e-003	0.1497	1.0000e-005	5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004	0.3333
Total	28.6261	1.4200e-003	0.1497	1.0000e-005	5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004	0.3333

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Bahia Resort Expansion Project

San Diego Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	456.00	Room	15.20	662,112.00	0
Unenclosed Parking Structure	710.00	Space	6.39	284,000.00	0
Parking Lot	273.00	Space	2.46	109,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumed construction schedule

Demolition - Assumed 171 rooms to be demolished, plus ancillary facilities

Architectural Coating - Rule 67.0 coatings

Vehicle Trips - Based on traffic analysis, 8 trips per room

Vechicle Emission Factors - Based on Business as Usual GHG emission factors

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - Assuming baseline Title 24 as of 2005

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	NumDays	370.00	391.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	35.00	89.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseEndDate	12/29/2017	9/30/2017
tblConstructionPhase	PhaseEndDate	2/26/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/1/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblEnergyUse	LightingElect	5.43	5.08
tblEnergyUse	T24E	6.29	5.84
tblEnergyUse	T24NG	50.49	49.75
tblGrading	AcresOfGrading	222.50	87.50
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.01	0.01

tblVehicleEF	HHD	1,639.66	1,538.82
tblVehicleEF	HHD	55.80	55.97
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	277.68	355.12
tblVehicleEF	LDA	59.47	58.10
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	332.85	411.13
tblVehicleEF	LDT1	70.71	70.59
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	404.75	483.82
tblVehicleEF	LDT2	85.80	86.11
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	775.07	586.97
tblVehicleEF	LHD1	38.34	40.66
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	657.89	621.96
tblVehicleEF	LHD2	23.51	24.75
tblVehicleEF	MCY	160.50	158.11
tblVehicleEF	MCY	42.23	42.79
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	537.67	617.11
tblVehicleEF	MDV	112.75	114.79
tblVehicleEF	MH	719.24	681.53
tblVehicleEF	MH	30.53	31.39

tblVehicleEF	MHD	6.9320e-003	5.76667e-003
tblVehicleEF	MHD	1,055.21	991.19
tblVehicleEF	MHD	55.21	55.33
tblVehicleEF	OBUS	2.8990e-003	3.2067e-003
tblVehicleEF	OBUS	1,091.88	1,036.55
tblVehicleEF	OBUS	34.93	36.45
tblVehicleEF	SBUS	7.7060e-003	5.9922e-003
tblVehicleEF	SBUS	1,090.44	1,011.31
tblVehicleEF	SBUS	131.47	129.70
tblVehicleEF	UBUS	2,112.22	1,960.19
tblVehicleEF	UBUS	24.26	25.31
tblVehicleTrips	ST_TR	8.19	8.00
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

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						
2016	13.6890	122.2441	113.6673	0.1747	12.0164	5.8307	17.8471	4.7593	5.4026	10.1618	0.0000	16,956.76	16,956.760	2.8312	0.0000	17,016.215	
2017	59.8930	66.1842	80.6528	0.1464	5.6418	3.3430	8.9848	1.5195	3.1237	4.6432	0.0000	13,518.24	13,518.244	1.6295	0.0000	13,552.464	
Total	73.5820	188.4283	194.3200	0.3211	17.6582	9.1737	26.8319	6.2788	8.5263	14.8050	0.0000	30,475.00	30,475.004	4.4607	0.0000	30,568.679	
											45	5				7	

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						
2016	13.6890	122.2441	113.6673	0.1747	7.7069	5.8307	13.5376	2.6713	5.4026	8.0739	0.0000	16,956.76	16,956.760	2.8312	0.0000	17,016.215	
2017	59.8930	66.1842	80.6528	0.1464	5.6418	3.3430	8.9848	1.5195	3.1237	4.6432	0.0000	13,518.24	13,518.244	1.6295	0.0000	13,552.464	
Total	73.5820	188.4283	194.3200	0.3211	13.3488	9.1737	22.5225	4.1908	8.5263	12.7171	0.0000	30,475.00	30,475.004	4.4607	0.0000	30,568.679	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	24.40	0.00	16.06	33.25	0.00	14.10	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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004	5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004		0.3333		
Energy	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225	0.8225	0.8225		12,986.14	12,986.145	0.2489	0.2381	13,065.176		
Mobile	12.3254	22.4395	109.9641	0.2098	14.6655	0.2748	14.9403	3.9150	0.2529	4.1679		17,709.09	17,709.098	0.7725		17,725.320	
Total	42.1418	33.2627	119.2041	0.2747	14.6655	1.0978	15.7633	3.9150	1.0759	4.9909		30,695.55	30,695.558	1.0223	0.2381	30,790.830	

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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004	5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004		0.3333		
Energy	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216	0.7216	0.7216		11,393.55	11,393.555	0.2184	0.2089	11,462.894	3	
Mobile	12.0413	20.7788	103.9161	0.1909	13.2841	0.2517	13.5358	3.5462	0.2317	3.7779	16,109.99	16,109.998	0.7105		16,124.918	5	
Total	41.7118	30.2748	112.0413	0.2479	13.2841	0.9738	14.2579	3.5462	0.9538	4.5000	27,503.86	27,503.868	0.9298	0.2089	27,588.146	2	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.02	8.98	6.01	9.78	9.42	11.29	9.55	9.42	11.35	9.84	0.00	10.40	10.40	9.05	12.26	10.40

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/28/2016	5	41	
2	Grading	Grading	2/29/2016	6/30/2016	5	89	
3	Building Construction	Building Construction	4/1/2016	9/30/2017	5	391	
4	Paving	Paving	1/1/2017	9/30/2017	5	195	
5	Architectural Coating	Architectural Coating	1/1/2017	9/30/2017	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,424,082; Non-Residential Outdoor: 474,694 (Architectural Coating)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
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
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
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
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
Demolition	6	15.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	443.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	89.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 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						
Fugitive Dust					2.0784	0.0000	2.0784	0.3147	0.0000	0.3147			0.0000			0.0000	
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.284	4,089.2841	1.1121			4,112.6374
Total	4.2876	45.6559	35.0303	0.0399	2.0784	2.2921	4.3705	0.3147	2.1365	2.4513		4,089.284	4,089.2841	1.1121			4,112.6374

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	0.2070	2.7446	2.4520	7.0900e-003	0.1653	0.0364	0.2018	0.0453	0.0335	0.0788		713.3973	713.3973	5.1600e-003			713.5056
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	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003			122.4878
Total	0.2626	2.8136	3.1039	8.5600e-003	0.2885	0.0374	0.3259	0.0780	0.0344	0.1123		835.7480	835.7480	0.0117			835.9934

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					0.8106	0.0000	0.8106	0.1228	0.0000	0.1228			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399	2.2921	2.2921	2.2921	2.1365	2.1365	2.1365	0.0000	4,089.284	4,089.2841	1.1121		4,112.6374
Total	4.2876	45.6559	35.0303	0.0399	0.8106	2.2921	3.1027	0.1228	2.1365	2.2593	0.0000	4,089.284	4,089.2841	1.1121		4,112.6374

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	0.2070	2.7446	2.4520	7.0900e-003	0.1653	0.0364	0.2018	0.0453	0.0335	0.0788	713.3973	713.3973	5.1600e-003	713.5056		
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878		
Total	0.2626	2.8136	3.1039	8.5600e-003	0.2885	0.0374	0.3259	0.0780	0.0344	0.1123	835.7480	835.7480	0.0117			835.9934

3.3 Grading - 2016

Unmitigated Construction On-Site

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

Category	lb/day										lb/day					
	Fugitive Dust					7.0647	0.0000	7.0647	3.4228	0.0000	3.4228			0.0000		0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	6.4795	74.8137	49.1374	0.0617	7.0647	3.5842	10.6490	3.4228	3.2975	6.7203		6,414.9807	6,414.9807	1.9350		6,455.6154

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0741	0.0921	0.8693	1.9500e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	163.1343	163.1343	8.7000e-003		163.3171	
Total	0.0741	0.0921	0.8693	1.9500e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447		163.1343	163.1343	8.7000e-003		163.3171

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	0.0000	0.0000	0.0000	0.0000	2.7552	0.0000	2.7552	1.3349	0.0000	1.3349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154

Total	6.4795	74.8137	49.1374	0.0617	2.7552	3.5842	6.3395	1.3349	3.2975	4.6324	0.0000	6,414.9807 7	6,414.9807	1.9350		6,455.6154
-------	--------	---------	---------	--------	--------	--------	--------	--------	--------	--------	--------	-----------------	------------	--------	--	------------

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	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	
Worker	0.0741	0.0921	0.8693	1.9500e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	163.1343	163.1343	8.7000e-003	163.3171		
Total	0.0741	0.0921	0.8693	1.9500e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447	163.1343	163.1343	8.7000e-003		163.3171	

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	2,669.286	2,669.2864	0.6620		2,683.1890	
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	2,669.286	2,669.2864	0.6620		2,683.1890	

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	0.0000	0.0000
Vendor	2.0877	16.7929	25.9001	0.0410	1.1483	0.2505	1.3988	0.3276	0.2304	0.5580	4,095.934	4,095.9344	0.0327	4	14,096.6217	
Worker	1.6415	2.0391	19.2539	0.0433	3.6391	0.0273	3.6665	0.9653	0.0251	0.9904	3,613.424	3,613.4244	0.1928	4	3,617.4727	
Total	3.7292	18.8320	45.1540	0.0843	4.7874	0.2778	5.0652	1.2929	0.2555	1.5483	7,709.3587	7,709.3587	0.2255		7,714.0938	

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	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.286	2,669.2864	0.6620		2,683.1890
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.286	2,669.2864	0.6620		2,683.1890

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	0.0000	
Vendor	2.0877	16.7929	25.9001	0.0410	1.1483	0.2505	1.3988	0.3276	0.2304	0.5580	4,095.934	4,095.9344	0.0327	4,096.6211	4	
Worker	1.6415	2.0391	19.2539	0.0433	3.6391	0.0273	3.6665	0.9653	0.0251	0.9904	3,613.424	3,613.4244	0.1928	3,617.4727	4	
Total	3.7292	18.8320	45.1540	0.0843	4.7874	0.2778	5.0652	1.2929	0.2555	1.5483	7,709.358	7,709.3587	0.2255	7,714.0938	7	

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	2,639.805	2,639.8053	0.6497		2,653.4490	3
Total	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	2,639.805	2,639.8053	0.6497		2,653.4490	3

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	0.0000	
Vendor	1.9077	15.0090	24.5315	0.0409	1.1483	0.2174	1.3657	0.3276	0.1999	0.5276	4,026.641	4,026.6419	0.0310	4,027.2921	9	
Worker	1.4871	1.8531	17.3289	0.0433	3.6391	0.0265	3.6656	0.9653	0.0244	0.9897	3,473.776	3,473.7763	0.1784	3,477.5219	3	
Total	3.3948	16.8621	41.8604	0.0842	4.7875	0.2439	5.0313	1.2929	0.2244	1.5172	7,500.418	7,500.4182	0.2093		7,504.8140	2

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	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.805	2,639.8053	0.6497		2,653.4490
Total	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.805	2,639.8053	0.6497		2,653.4490

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	0.0000	0.0000
Vendor	1.9077	15.0090	24.5315	0.0409	1.1483	0.2174	1.3657	0.3276	0.1999	0.5276	4,026.641	4,026.6419	0.0310			4,027.2921
Worker	1.4871	1.8531	17.3289	0.0433	3.6391	0.0265	3.6656	0.9653	0.0244	0.9897	3,473.776	3,473.7763	0.1784			3,477.5219
Total	3.3948	16.8621	41.8604	0.0842	4.7875	0.2439	5.0313	1.2929	0.2244	1.5172	7,500.418	7,500.4182	0.2093			7,504.8140

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	2,281.058	2,281.0588	0.6989			2,295.7360	
Paving	0.0331					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	1.9404	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	2,281.058	2,281.0588	0.6989			2,295.7360	

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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0504	0.0628	0.5868	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		117.6222	117.6222	6.0400e-003		117.7491	
Total	0.0504	0.0628	0.5868	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		117.6222	117.6222	6.0400e-003		117.7491	

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	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.058	2,281.0588	0.6989		2,295.7360	

Paving	0.0331				0.0000	0.0000		0.0000	0.0000		0.0000			0.0000		
Total	1.9404	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473	0.0000	2,281.0588	2,281.0588	0.6989		2,295.7360

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	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	
Worker	0.0504	0.0628	0.5868	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335	117.6222	117.6222	6.0400e-003		117.7491	
Total	0.0504	0.0628	0.5868	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335	117.6222	117.6222	6.0400e-003		117.7491	

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	50.7740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721	
Total	51.1063	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721	

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	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.2988	0.3723	3.4814	8.6900e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	697.8919	697.8919	0.0358	698.6444			
Total	0.2988	0.3723	3.4814	8.6900e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	697.8919	697.8919	0.0358			698.6444	

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	50.7740						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733	0.1733	0.1733	0.1733	0.0000	281.4481	281.4481	0.0297	282.0721		
Total	51.1063	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721	

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	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
Worker	0.2988	0.3723	3.4814	8.6900e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	697.8919	697.8919	0.0358	698.6444	
Total	0.2988	0.3723	3.4814	8.6900e-003	0.7311	5.3200e-003	0.7364	0.1939	4.9000e-003	0.1988	697.8919	697.8919	0.0358	698.6444	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	12.0413	20.7788	103.9161	0.1909	13.2841	0.2517	13.5358	3.5462	0.2317	3.7779	16,109.99	16,109.998	0.7105	16,124.918	5	
Unmitigated	12.3254	22.4395	109.9641	0.2098	14.6655	0.2748	14.9403	3.9150	0.2529	4.1679	17,709.09	17,709.098	0.7725	17,725.320	2	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Hotel	3,648.00	3,648.00	3648.00	6,930,947		6,278,093	
Parking Lot	0.00	0.00	0.00				
Unenclosed Parking Structure	0.00	0.00	0.00				
Total	3,648.00	3,648.00	3,648.00	6,930,947		6,278,093	

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216		0.7216	0.7216	11,393.55	11,393.555	0.2184	0.2089	3	11,462.894
NaturalGas Unmitigated	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225		0.8225	0.8225	12,986.14	12,986.145	0.2489	0.2381	6	13,065.176

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						
Unenclosed Parking Structure	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	0.0000	0.0000	
Hotel	110382	1.1904	10.8218	9.0903	0.0649		0.8225	0.8225	0.8225	0.8225	0.8225	12,986.145	12,986.14	0.2489	0.2381	13,065.176	6	
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	0.0000	
Total		1.1904	10.8218	9.0903	0.0649		0.8225	0.8225	0.8225	0.8225	0.8225	12,986.145	12,986.14	0.2489	0.2381	13,065.176	6	

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						
Unenclosed Parking Structure	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	0.0000	0.0000	
Hotel	96.8452	1.0444	9.4946	7.9755	0.0570		0.7216	0.7216	0.7216	0.7216	0.7216	11,393.555	11,393.55	0.2184	0.2089	11,462.894	3	
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	0.0000	
Total		1.0444	9.4946	7.9755	0.0570		0.7216	0.7216	0.7216	0.7216	0.7216	11,393.555	11,393.55	0.2184	0.2089	11,462.894	3	

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive 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	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	
Unmitigated	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	

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	6.0280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Consumer Products	22.5837					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000	
Landscaping	0.0145	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	
Total	28.6261	1.4200e-003	0.1497	1.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.3149	0.3149	8.8000e-004			0.3333	

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	6.0280				0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	
Consumer Products	22.5837				0.0000	0.0000		0.0000	0.0000		0.0000		0.0000	
Landscaping	0.0145	1.4200e-003	0.1497	1.0000e-005	5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004	0.3333
Total	28.6261	1.4200e-003	0.1497	1.0000e-005	5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004		0.3149	0.3149	8.8000e-004	0.3333

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Bahia Resort Expansion Project

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hotel	456.00	Room	15.20	662,112.00	0
Unenclosed Parking Structure	710.00	Space	6.39	284,000.00	0
Parking Lot	273.00	Space	2.46	109,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumed construction schedule

Demolition - Assumed 171 rooms to be demolished, plus ancillary facilities

Architectural Coating - Rule 67.0 coatings

Vehicle Trips - Based on traffic analysis, 8 trips per room

Vechicle Emission Factors - Based on Business as Usual GHG emission factors

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - Assuming baseline Title 24 as of 2005

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	NumDays	370.00	391.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	35.00	89.00
tblConstructionPhase	NumDays	20.00	195.00
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseEndDate	12/29/2017	9/30/2017
tblConstructionPhase	PhaseEndDate	2/26/2016	2/28/2016
tblConstructionPhase	PhaseEndDate	6/29/2018	9/30/2017
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	7/1/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2017	1/1/2017
tblEnergyUse	LightingElect	5.43	5.08
tblEnergyUse	T24E	6.29	5.84
tblEnergyUse	T24NG	50.49	49.75
tblGrading	AcresOfGrading	222.50	87.50
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.01	0.01

tblVehicleEF	HHD	1,639.66	1,538.82
tblVehicleEF	HHD	55.80	55.97
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	277.68	355.12
tblVehicleEF	LDA	59.47	58.10
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	332.85	411.13
tblVehicleEF	LDT1	70.71	70.59
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	404.75	483.82
tblVehicleEF	LDT2	85.80	86.11
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	775.07	586.97
tblVehicleEF	LHD1	38.34	40.66
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	657.89	621.96
tblVehicleEF	LHD2	23.51	24.75
tblVehicleEF	MCY	160.50	158.11
tblVehicleEF	MCY	42.23	42.79
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	537.67	617.11
tblVehicleEF	MDV	112.75	114.79
tblVehicleEF	MH	719.24	681.53
tblVehicleEF	MH	30.53	31.39

tblVehicleEF	MHD	6.9320e-003	5.7667e-003
tblVehicleEF	MHD	1,055.21	991.19
tblVehicleEF	MHD	55.21	55.33
tblVehicleEF	OBUS	2.8990e-003	3.2067e-003
tblVehicleEF	OBUS	1,091.88	1,036.55
tblVehicleEF	OBUS	34.93	36.45
tblVehicleEF	SBUS	7.7060e-003	5.9922e-003
tblVehicleEF	SBUS	1,090.44	1,011.31
tblVehicleEF	SBUS	131.47	129.70
tblVehicleEF	UBUS	2,112.22	1,960.19
tblVehicleEF	UBUS	24.26	25.31
tblVehicleTrips	ST_TR	8.19	8.00
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.0600	8.9738	9.0123	0.0148	0.8283	0.4272	1.2555	0.2863	0.3973	0.6836	0.0000	1,284.780	1,284.7800	0.1782	0.0000	1,288.5227
2017	5.8159	6.4592	7.6432	0.0143	0.5374	0.3258	0.8632	0.1450	0.3045	0.4495	0.0000	1,201.066	1,201.0668	0.1441	0.0000	1,204.0927
Total	6.8759	15.4330	16.6555	0.0291	1.3658	0.7530	2.1188	0.4313	0.7018	1.1331	0.0000	2,485.846	2,485.8468	0.3223	0.0000	2,492.6155

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	tons/yr											MT/yr					
2016	1.0600	8.9738	9.0123	0.0148	0.6106	0.4272	1.0378	0.1895	0.3973	0.5868	0.0000	1,284.779	1,284.7793	0.1782	0.0000	1,288.5221	
2017	5.8159	6.4592	7.6432	0.0143	0.5374	0.3258	0.8632	0.1450	0.3045	0.4495	0.0000	1,201.066	1,201.0663	0.1441	0.0000	1,204.0922	
Total	6.8759	15.4330	16.6555	0.0291	1.1480	0.7530	1.9010	0.3345	0.7018	1.0363	0.0000	2,485.845	2,485.8456	0.3223	0.0000	2,492.6142	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	15.94	0.00	10.28	22.45	0.00	8.55	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	5.2229	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	
Energy	0.2173	1.9750	1.6590	0.0119		0.1501	0.1501	0.1501	0.1501	0.0000	5,582.549	5,582.5496	0.1794	0.0680	5,607.3970	
Mobile	2.0894	4.0665	19.2990	0.0385	2.6064	0.0498	2.6561	0.6971	0.0458	0.7429	0.0000	3,361.600	3,361.6009	0.1198	0.0000	3,364.1173
Waste						0.0000	0.0000	0.0000	0.0000	50.6787	0.0000	50.6787	2.9950	0.0000	113.5743	
Water						0.0000	0.0000	0.0000	0.0000	3.6698	53.8895	57.5593	0.3791	9.3500e-003	68.4182	
Total	7.5296	6.0416	20.9714	0.0503	2.6064	0.1999	2.8063	0.6971	0.1960	0.8931	54.3485	8,998.065	9,052.4143	3.6734	0.0774	9,153.5340

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	5.2229	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272		
Energy	0.1906	1.7328	1.4555	0.0104		0.1317	0.1317	0.1317	0.1317	0.0000	4,889.684	4,889.6844	0.1570	0.0596	4,911.4563		
Mobile	2.0377	3.7655	18.1923	0.0350	2.3609	0.0456	2.4064	0.6315	0.0420	0.6734	0.0000	3,056.521	3,056.5218	0.1102	0.0000	3,058.8365	
Waste						0.0000	0.0000	0.0000	0.0000	25.3394	0.0000	25.3394	1.4975	0.0000	56.7871		
Water						0.0000	0.0000	0.0000	0.0000	2.9358	43.7603	46.6961	0.3032	7.4700e-003	55.3808		
Total	7.4513	5.4984	19.6613	0.0454	2.3609	0.1773	2.5382	0.6315	0.1737	0.8052	28.2752	7,989.992	8,018.2673	2.0681	0.0671	8,082.4880	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.04	8.99	6.25	9.76	9.42	11.31	9.55	9.42	11.37	9.85	47.97	11.20	11.42	43.70	13.30	11.70

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/28/2016	5	41	
2	Grading	Grading	2/29/2016	6/30/2016	5	89	
3	Building Construction	Building Construction	4/1/2016	9/30/2017	5	391	
4	Paving	Paving	1/1/2017	9/30/2017	5	195	
5	Architectural Coating	Architectural Coating	1/1/2017	9/30/2017	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,424,082; Non-Residential Outdoor: 474,694 (Architectural)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
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
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
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
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
Demolition	6	15.00	0.00	389.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	443.00	173.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	89.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Fugitive Dust					0.0426	0.0000	0.0426	6.4500e-003	0.0000	6.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0879	0.9360	0.7181	8.2000e-004	0.0470	0.0470		0.0438	0.0438		0.0000	76.0496	76.0496	0.0207	0.0000	76.4839	
Total	0.0879	0.9360	0.7181	8.2000e-004	0.0426	0.0470	0.0896	6.4500e-003	0.0438	0.0503	0.0000	76.0496	76.0496	0.0207	0.0000	76.4839	

Unmitigated Construction Off-Site

Worker	1.0500e-003	1.3900e-003	0.0133	3.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2980	2.2980	1.2000e-004	0.0000	2.3005
Total	5.1200e-003	0.0579	0.0598	1.8000e-004	5.7900e-003	7.7000e-004	6.5400e-003	1.5700e-003	7.1000e-004	2.2700e-003	0.0000	15.5833	15.5833	2.2000e-004	0.0000	15.5879

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0166	0.0000	0.0166	2.5200e-003	0.0000	2.5200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0879	0.9359	0.7181	8.2000e-004		0.0470	0.0470		0.0438	0.0438	0.0000	76.0495	76.0495	0.0207	0.0000	76.4838
Total	0.0879	0.9359	0.7181	8.2000e-004	0.0166	0.0470	0.0636	2.5200e-003	0.0438	0.0463	0.0000	76.0495	76.0495	0.0207	0.0000	76.4838

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0700e-003	0.0565	0.0465	1.5000e-004	3.3200e-003	7.5000e-004	4.0600e-003	9.1000e-004	6.9000e-004	1.6000e-003	0.0000	13.2853	13.2853	1.0000e-004	0.0000	13.2873
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	1.0500e-003	1.3900e-003	0.0133	3.0000e-005	2.4700e-003	2.0000e-005	2.4800e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2980	2.2980	1.2000e-004	0.0000	2.3005
Total	5.1200e-003	0.0579	0.0598	1.8000e-004	5.7900e-003	7.7000e-004	6.5400e-003	1.5700e-003	7.1000e-004	2.2700e-003	0.0000	15.5833	15.5833	2.2000e-004	0.0000	15.5879

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust	0.3144	0.0000	0.3144	0.1523	0.0000	0.1523	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.2883	3.3292	2.1866	2.7500e-003	0.1595	0.1595	0.1467	0.1467	0.0000	258.9710	258.9710	0.0781	0.0000	260.6114			
Total	0.2883	3.3292	2.1866	2.7500e-003	0.3144	0.1595	0.4739	0.1523	0.1467	0.2991	0.0000	258.9710	258.9710	0.0781	0.0000	260.6114	

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	3.0500e-003	4.0300e-003	0.0384	9.0000e-005	7.1400e-003	5.0000e-005	7.1900e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	6.6511	6.6511	3.5000e-004	0.0000	6.6584	
Total	3.0500e-003	4.0300e-003	0.0384	9.0000e-005	7.1400e-003	5.0000e-005	7.1900e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	6.6511	6.6511	3.5000e-004	0.0000	6.6584	

Mitigated Construction On-Site

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

Fugitive Dust					0.1226	0.0000	0.1226	0.0594	0.0000	0.0594	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road		0.2883	3.3292	2.1866	2.7500e-003		0.1595	0.1595	0.1467	0.1467	0.0000	258.9707	258.9707	0.0781	0.0000	0.0000	260.6111
Total	0.2883	3.3292	2.1866	2.7500e-003	0.1226	0.1595	0.2821	0.0594	0.1467	0.2061	0.0000	258.9707	258.9707	0.0781	0.0000	0.0000	260.6111

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	3.0500e-003	4.0300e-003	0.0384	9.0000e-005	7.1400e-003	5.0000e-005	7.1900e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	6.6511	6.6511	3.5000e-004	0.0000	6.6584	
Total	3.0500e-003	4.0300e-003	0.0384	9.0000e-005	7.1400e-003	5.0000e-005	7.1900e-003	1.9000e-003	5.0000e-005	1.9500e-003	0.0000	6.6511	6.6511	3.5000e-004	0.0000	6.6584	

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.3338	2.7936	1.8137	2.6300e-003		0.1928	0.1928		0.1812	0.1812	0.0000	237.3105	237.3105	0.0589	0.0000	238.5465	
Total	0.3338	2.7936	1.8137	2.6300e-003		0.1928	0.1928		0.1812	0.1812	0.0000	237.3105	237.3105	0.0589	0.0000	238.5465	

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	0.1929	1.6564	2.3206	4.0300e-003	0.1103	0.0244	0.1347	0.0316	0.0224	0.0540	0.0000	365.7772	365.7772	2.8700e-003	0.0000	365.8374
Worker	0.1489	0.1967	1.8751	4.2800e-003	0.3481	2.6800e-003	0.3508	0.0925	2.4600e-003	0.0950	0.0000	324.4374	324.4374	0.0171	0.0000	324.7973
Total	0.3418	1.8531	4.1957	8.3100e-003	0.4584	0.0271	0.4855	0.1241	0.0249	0.1490	0.0000	690.2145	690.2145	0.0200	0.0000	690.6346

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	0.3338	2.7936	1.8137	2.6300e-003	0.1928	0.1928		0.1812	0.1812	0.0000	237.3102	237.3102	0.0589	0.0000	238.5462	
Total	0.3338	2.7936	1.8137	2.6300e-003	0.1928	0.1928		0.1812	0.1812	0.0000	237.3102	237.3102	0.0589	0.0000	238.5462	

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	0.0000	
Vendor	0.1929	1.6564	2.3206	4.0300e-003	0.1103	0.0244	0.1347	0.0316	0.0224	0.0540	0.0000	365.7772	365.7772	2.8700e-003	0.0000	365.8374			
Worker	0.1489	0.1967	1.8751	4.2800e-003	0.3481	2.6800e-003	0.3508	0.0925	2.4600e-003	0.0950	0.0000	324.4374	324.4374	0.0171	0.0000	324.7973			
Total	0.3418	1.8531	4.1957	8.3100e-003	0.4584	0.0271	0.4855	0.1241	0.0249	0.1490	0.0000	690.2145	690.2145	0.0200	0.0000	690.6346			

3.4 Building Construction - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4921	233.4921	0.0575	0.0000	234.6989
Total	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4921	233.4921	0.0575	0.0000	234.6989

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
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	0.1756	1.4731	2.1813	4.0000e-003	0.1097	0.0211	0.1308	0.0314	0.0194	0.0508	0.0000	357.7596	357.7596	2.7000e-003	0.0000	357.8163
Worker	0.1342	0.1778	1.6815	4.2600e-003	0.3464	2.5800e-003	0.3490	0.0920	2.3800e-003	0.0944	0.0000	310.3106	310.3106	0.0158	0.0000	310.6419

Total	0.3099	1.6509	3.8629	8.2600e-003	0.4561	0.0237	0.4798	0.1234	0.0218	0.1452	0.0000	668.0702	668.0702	0.0185	0.0000	668.4582
-------	--------	--------	--------	-------------	--------	--------	--------	--------	--------	--------	--------	----------	----------	--------	--------	----------

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	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4919	233.4919	0.0575	0.0000	234.6987
Total	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4919	233.4919	0.0575	0.0000	234.6987

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	
Vendor	0.1756	1.4731	2.1813	4.0000e-003	0.1097	0.0211	0.1308	0.0314	0.0194	0.0508	0.0000	357.7596	357.7596	2.7000e-003	0.0000	357.8163
Worker	0.1342	0.1778	1.6815	4.2600e-003	0.3464	2.5800e-003	0.3490	0.0920	2.3800e-003	0.0944	0.0000	310.3106	310.3106	0.0158	0.0000	310.6419
Total	0.3099	1.6509	3.8629	8.2600e-003	0.4561	0.0237	0.4798	0.1234	0.0218	0.1452	0.0000	668.0702	668.0702	0.0185	0.0000	668.4582

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1860	1.9789	1.4359	2.1700e-003		0.1110	0.1110		0.1021	0.1021	0.0000	201.7608	201.7608	0.0618	0.0000	203.0590
Paving	3.2200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1892	1.9789	1.4359	2.1700e-003		0.1110	0.1110		0.1021	0.1021	0.0000	201.7608	201.7608	0.0618	0.0000	203.0590

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.5500e-003	6.0200e-003	0.0569	1.4000e-004	0.0117	9.0000e-005	0.0118	3.1200e-003	8.0000e-005	3.2000e-003	0.0000	10.5071	10.5071	5.3000e-004	0.0000	10.5184	
Total	4.5500e-003	6.0200e-003	0.0569	1.4000e-004	0.0117	9.0000e-005	0.0118	3.1200e-003	8.0000e-005	3.2000e-003	0.0000	10.5071	10.5071	5.3000e-004	0.0000	10.5184	

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	0.1860	1.9789	1.4359	2.1700e-003		0.1110	0.1110		0.1021	0.1021	0.0000	201.7606	201.7606	0.0618	0.0000	203.0588
Paving	3.2200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	0.1892	1.9789	1.4359	2.1700e-003		0.1110	0.1110		0.1021	0.1021	0.0000	201.7606	201.7606	0.0618	0.0000	203.0588

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.5500e-003	6.0200e-003	0.0569	1.4000e-004	0.0117	9.0000e-005	0.0118	3.1200e-003	8.0000e-005	3.2000e-003	0.0000	10.5071	10.5071	5.3000e-004	0.0000	10.5184	
Total	4.5500e-003	6.0200e-003	0.0569	1.4000e-004	0.0117	9.0000e-005	0.0118	3.1200e-003	8.0000e-005	3.2000e-003	0.0000	10.5071	10.5071	5.3000e-004	0.0000	10.5184	

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Archit. Coating	4.9505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0324	0.2130	0.1821	2.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	24.8942	24.8942	2.6300e-003	0.0000	24.9494	
Total	4.9829	0.2130	0.1821	2.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	24.8942	24.8942	2.6300e-003	0.0000	24.9494	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0270	0.0357	0.3378	8.6000e-004	0.0696	5.2000e-004	0.0701	0.0185	4.8000e-004	0.0190	0.0000	62.3423	62.3423	3.1700e-003	0.0000	62.4089	
Total	0.0270	0.0357	0.3378	8.6000e-004	0.0696	5.2000e-004	0.0701	0.0185	4.8000e-004	0.0190	0.0000	62.3423	62.3423	3.1700e-003	0.0000	62.4089	

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	4.9505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0324	0.2130	0.1821	2.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	24.8942	24.8942	2.6300e-003	0.0000	24.9494
Total	4.9829	0.2130	0.1821	2.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	24.8942	24.8942	2.6300e-003	0.0000	24.9494

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	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	0.0000	0.0000
Worker	0.0270	0.0357	0.3378	8.6000e-004	0.0696	5.2000e-004	0.0701	0.0185	4.8000e-004	0.0190	0.0000	62.3423	62.3423	3.1700e-003	0.0000	62.4089		
Total	0.0270	0.0357	0.3378	8.6000e-004	0.0696	5.2000e-004	0.0701	0.0185	4.8000e-004	0.0190	0.0000	62.3423	62.3423	3.1700e-003	0.0000	62.4089		

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Pedestrian Network

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	2.0377	3.7655	18.1923	0.0350	2.3609	0.0456	2.4064	0.6315	0.0420	0.6734	0.0000	3,056.5218	3,056.5218	0.1102	0.0000	3,058.8365
Unmitigated	2.0894	4.0665	19.2990	0.0385	2.6064	0.0498	2.6561	0.6971	0.0458	0.7429	0.0000	3,361.6009	3,361.6009	0.1198	0.0000	3,364.1173

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Hotel	3,648.00	3,648.00	3,648.00	6,930,947		6,278,093	
Parking Lot	0.00	0.00	0.00				
Unenclosed Parking Structure	0.00	0.00	0.00				
Total	3,648.00	3,648.00	3,648.00	6,930,947		6,278,093	

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3,003.353	3,003.3536	0.1209	0.0250	3,013.6456		
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	3,432.547	3,432.5477	0.1382	0.0286	3,444.3104		
NaturalGas Mitigated	0.1906	1.7328	1.4555	0.0104		0.1317	0.1317		0.1317	0.1317	0.0000	1,886.330	1,886.3308	0.0362	0.0346	1,897.8107	
NaturalGas Unmitigated	0.2173	1.9750	1.6590	0.0119		0.1501	0.1501		0.1501	0.1501	0.0000	2,150.002	2,150.0020	0.0412	0.0394	2,163.0865	

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					
Unenclosed Parking Structure	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	0.0000	0.0000
Hotel	4.02895e+007	0.2173	1.9750	1.6590	0.0119		0.1501	0.1501	0.1501	0.1501	0.1501	2,150.0020	2,150.002	0.0412	0.0394	2,163.0865	
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	0.0000
Total		0.2173	1.9750	1.6590	0.0119		0.1501	0.1501		0.1501	0.1501	0.0000	2,150.0020	2,150.002	0.0412	0.0394	2,163.0865

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					
Unenclosed Parking Structure	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	0.0000	0.0000
Hotel	3.53485e+007	0.1906	1.7328	1.4555	0.0104		0.1317	0.1317	0.1317	0.1317	0.1317	1,886.3308	1,886.330	0.0362	0.0346	1,897.8107	
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	0.0000
Total		0.1906	1.7328	1.4555	0.0104		0.1317	0.1317		0.1317	0.1317	0.0000	1,886.3308	1,886.330	0.0362	0.0346	1,897.8107

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	9.66021e+006	3,157.0427	0.1271	0.0263	3,167.8613
Parking Lot	96096	31.4050	1.2600e-003	2.6000e-004	31.5126
Unenclosed Parking Structure	746920	244.1000	9.8300e-003	2.0300e-003	244.9365
Total		3,432.5477	0.1382	0.0286	3,444.3104

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	8.47338e+006	2,769.1743	0.1115	0.0231	2,778.6638
Parking Lot	81681.6	26.6943	1.0700e-003	2.2000e-004	26.7857
Unenclosed Parking Structure	634882	207.4850	8.3500e-003	1.7300e-003	208.1960
Total		3,003.3536	0.1209	0.0250	3,013.6456

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Mitigated	5.2229	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	
Unmitigated	5.2229	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	1.1001					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	4.1215					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Landscaping	1.3000e-003	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	
Total	5.2229	1.3000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					

Architectural Coating	1.1001				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1215				0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0135	0.0000	5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	
Total	5.2229	1.3000e-004	0.0135	0.0000	5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0257	0.0257	7.0000e-005	0.0000	0.0272	

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	46.6961	0.3032	7.4700e-003	55.3808
Unmitigated	57.5593	0.3791	9.3500e-003	68.4182

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Hotel	11.5672 / 1.28525	57.5593	0.3791	9.3500e-003	68.4182
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		57.5593	0.3791	9.3500e-003	68.4182

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	9.2538 / 1.20685	46.6961	0.3032	7.4700e-003	55.3808
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		46.6961	0.3032	7.4700e-003	55.3808

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e

	MT/yr			
Mitigated	25.3394	1.4975	0.0000	56.7871
Unmitigated	50.6787	2.9950	0.0000	113.5743

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	249.66	50.6787	2.9950	0.0000	113.5743
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		50.6787	2.9950	0.0000	113.5743

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	124.83	25.3394	1.4975	0.0000	56.7871
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000

Total		25.3394	1.4975	0.0000	56.7871
-------	--	---------	--------	--------	---------

9.0 Operational Offroad

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

10.0 Vegetation
