Oceanside East Shopping Center Project

Air Quality and Greenhouse Gas Study

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1 Project Description

1.1 Introduction

This report presents an analysis of the potential air quality and greenhouse gas (GHG) emission impacts of the proposed On-Point Oceanside Retail Center Project (project) to be located at 3340 Mission Avenue on Assessor's Parcel Number (APN) 160-279-51-00 (project site), on the corner of California State Route 76 (CA-76) and Foussat Road in Oceanside, San Diego County, California. The report has been prepared by Rincon Consultants, Inc. under contract to NLA Oceanside, LLC for use by the City of Oceanside in support of environmental documentation being prepared for the project pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the project's air quality and GHG emissions, as well as the associated impacts of those emissions. This analysis considers both temporary impacts that would result from project construction and potential long-term impacts associated with operation of the project.

1.2 Project Summary

The project site encompasses 3.7 acres. The site is generally trapezoidal in shape, approximately 400 feet long on its north edge, 500 feet on its east edge, 230 feet on its south edge, and 625 feet on its west edge. The site is mostly vacant, with the exception of the western corner where U-Haul has a fenced area of parked rental vehicles and trucks and another partially fenced area containing a large trash receptacle. A portion of the site is paved and the remainder is bare ground with little vegetation other than a few palm trees and scattered shrubs near the northeast corner. The project site is surrounded by a mix of commercial and retail land uses to the west, residential uses to the south across Mission Avenue, public uses (City of Oceanside Fire Department Station 7) to the east across Foussat Road, and a landscaped Caltrans right-of-way for CA-76 to the north. The Oceanside Municipal Airport is located just northwest of the project site, across CA-76. The regional location of the site and existing site conditions are shown in Figure 1 and Figure 2, respectively.

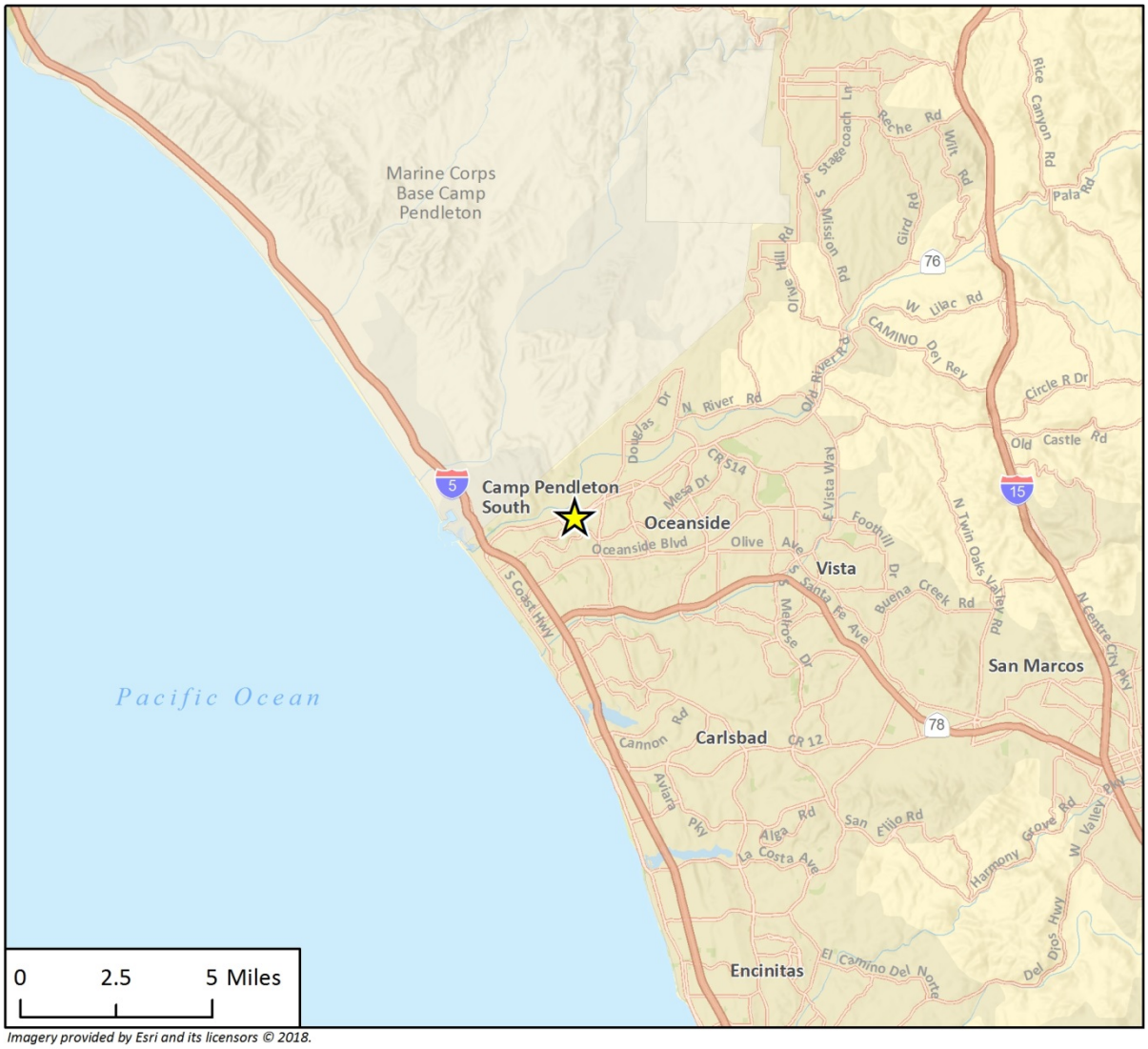
The project entails the construction of an approximately 23,700 square-foot commercial and retail development and 140 surface parking spaces. The development would include a gas station with an accompanying food mart, a building solely for retail sales, two drive-thru restaurants, a building split equally between retail sales and a sit-down restaurant, a car wash, and various vehicle maintenance and service facilities. These uses and their associated square footage are displayed in Table 1. Ten parking spaces out of the 140 total spaces would be designated as ADA accessible spaces. A to-be-determined number of bicycle parking spaces would also be provided on-site for employee and/or customer use. The project would include low-flow plumbing fixtures and LED light fixtures with occupancy sensors where applicable per CalGreen building standards.

Table 1 Proposed Project Uses and Square Footage

Building	Use Classification	Square Feet	Parking Provided
A	Gas Station + Food Mart	3,000	32
B	Retail Sales	1,900	
C	Restaurant with Drive-Thru	3,000	77
D	50% Retail Sales	2,400	
D	50% Sit-Down Restaurant	2,400	
E	Restaurant with Drive-Thru	2,000	
F	Maintenance and Service Facilities	4,500	
G	Automobile Washing	4,500	31

Proposed development would require grading of the entire site. A total of 20,000 cubic yards of material (cy) would be imported and used on-site as fill material. Construction would occur over eight months based on an applicant-provided construction schedule, with project operation scheduled to begin in 2020.

Figure 1 Regional Location



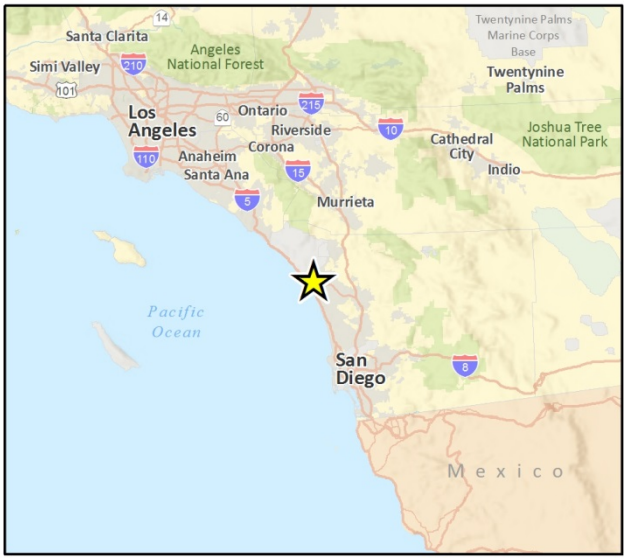


Fig 1 Regional Location

Figure 2 Project Location

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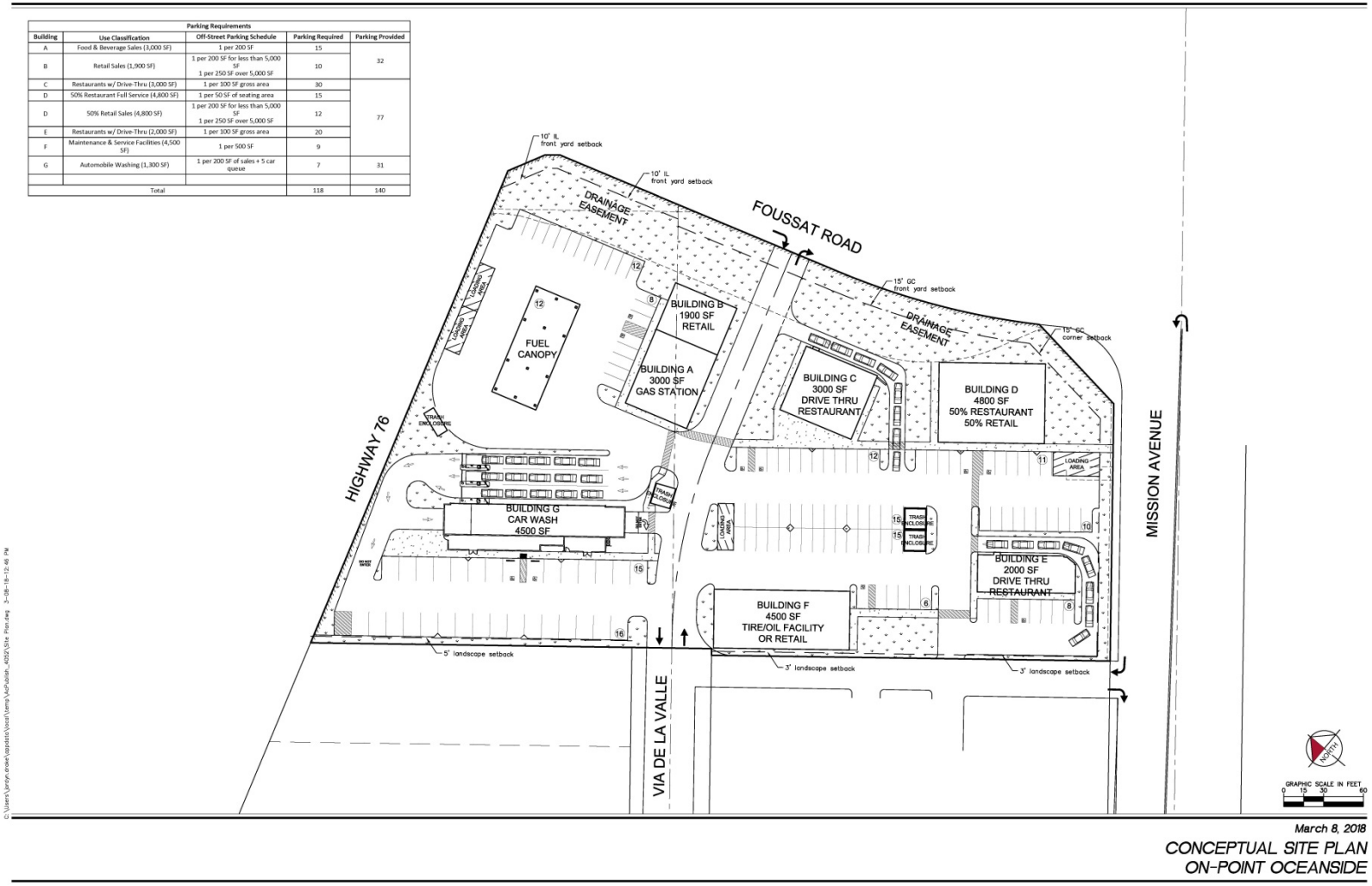
Figure 3 Project Site Plan

Parking Requirements				
Building	Use Classification	Off-Street Parking Schedule	Parking Required	Parking Provided
A	Food & Beverage Sales (3,000 SF)	1 per 200 SF	15	32
B	Retail Sales (1,900 SF)	1 per 200 SF for less than 5,000 SF 1 per 250 SF over 5,000 SF	10	
C	Restaurants w/ Drive-Thru (3,000 SF)	1 per 100 SF gross area	30	77
D	50% Restaurant Full Service (4,800 SF)	1 per 50 SF of seating area	15	
D	50% Retail Sales (4,800 SF)	1 per 200 SF for less than 5,000 SF 1 per 250 SF over 5,000 SF	12	
E	Restaurants w/ Drive-Thru (2,000 SF)	1 per 100 SF gross area	20	
F	Maintenance & Service Facilities (4,500 SF)	1 per 500 SF	9	
G	Automobile Washing (1,300 SF)	1 per 200 SF of sales + 5 car queue	7	31
	Total		118	140



2 Air Quality

2.1 Background

2.1.1 Local Climate and Meteorology

The project area is located in the San Diego Air Basin (SDAB), which is bordered by the Pacific Ocean to the west, the South Coast Air Basin to the north, the Salton Sea Air Basin to the east, and the U.S./Mexico border to the south. Regional wind patterns are dominated by onshore sea breezes during the day, and winds generally slow or reverse direction toward the sea at night. Temperature and precipitation can vary widely within the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains. In general, more mild annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters. The project site is located approximately 2.8 miles inland from the coast.

High air pollution levels in coastal communities of San Diego can often occur when polluted air from the South Coast Air Basin, particularly from Los Angeles, travels southwest over the ocean at night and is brought on shore into San Diego by the sea breeze during the day (SDAPCD 2015). Ozone (O_3) and its precursor emissions (volatile organic compounds [VOC] and nitrogen oxides [NO_X]) are also transported to San Diego during relatively mild Santa Ana weather conditions. However, during strong Santa Ana weather conditions, pollutants are pushed away from San Diego far out to sea.

Air pollutant emission sources in the SDAB are typically grouped into two categories: stationary and mobile sources. Mobile source emissions can be attributed to vehicles and transportation-related activities. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions originate from manufacturing and industrial processes, while area emissions are generated from residential heaters, small engines, and other consumer products. Both major emissions categories are widely distributed within SDAB and may have a cumulative effect.

2.1.2 Air Quality Regulation

The federal and state governments have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency (CalEPA). County-level Air Pollution Control Districts (APCD) provide local management of air quality. CARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 14 air basins statewide, including the SDAB.

The USEPA has set primary national ambient air quality standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with a diameter of up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, California has established health-based ambient air quality standards for these and

other pollutants, some of which are more stringent than the federal standards. Table 2 lists the current federal and state standards for regulated pollutants.

Table 2 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.00 ppm	9.00 ppm
	1-Hour	35.00 ppm	20.00 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.180 ppm
Sulfur Dioxide	Annual	0.030 ppm	–
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	–	20 $\mu g/m^3$
	24-Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
PM_{25}	Annual	12 $\mu g/m^3$	12 $\mu g/m^3$
	24-Hour	35 $\mu g/m^3$	–
Lead	30-Day Average	–	1.5 $\mu g/m^3$
	3-Month Average	0.15 $\mu g/m^3$	–

ppm = parts per million;
$\mu g/m^3$ = micrograms per cubic meter
Source: CARB. May 2016a. *Ambient Air Quality Standards.* http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

The San Diego Air Pollution Control District (SDAPCD) is the designated air quality control agency for the SDAB. The SDAB is designated a nonattainment area for the federal and state eight-hour ozone standards, and for state one-hour ozone standards. The SDAB is designated unclassifiable or in attainment for all other federal and state standards (SDAPCD 2018).

Characteristics of O_3, CO, NO_2, and suspended particulates are described below.

Ozone

Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and volatile organic compounds (VOC)[1]. NO_X is formed during the combustion of fuels, while VOCs are formed during combustion and evaporation of organic solvents. Because O_3 requires sunlight to form, it mostly occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including

[1] Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, VOC, ROC, and VOC). SDAPCD uses the term VOC to denote organic precursors.

respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide

CO is a local pollutant that is found in high concentrations only near fuel combustion equipment and other sources of CO. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. CO's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulty in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Nitrogen Dioxide

NO_2 is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. NO_2 absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of ozone/smog and acid rain.

Suspended Particulates

Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The particulates that are of particular concern are PM_{10} (which measures no more than 10 microns in diameter) and $PM_{2.5}$ (a fine particulate measuring no more than 2.5 microns in diameter). The characteristics, sources, and potential health effects associated with small particulates (PM_{10} and $PM_{2.5}$) can be different. Major man-made sources of PM_{10} are agricultural operations, industrial processes, combustion of fossil fuels, construction and demolition operations, and entrainment of road dust into the atmosphere. Natural sources include windblown dust, wildfire smoke, and sea spray salt. The finer $PM_{2.5}$ particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

2.1.3 Current Air Quality

CARB operates a network of air quality monitoring stations throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. The monitoring station located closest to the project site is the Camp Pendleton station, located approximately 2.8 miles west of the project site. Table 3 indicates the number of days that each standard has been exceeded at the Camp Pendleton station. Information for PM_{10} (2014-2015) and $PM_{2.5}$ (2015) was unavailable at Camp Pendleton and was drawn from the next closest site, the Escondido-E Valley Parkway

monitoring station, approximately 16.7 miles south of the project site. 2016 data for PM_{10} and $PM_{2.5}$ were unavailable at both monitoring stations. As shown in Table 3, eight-hour ozone concentrations exceeded federal standards from 2014 through 2016 and one-hour ozone concentrations exceeded State standards in 2014; no other exceedances occurred between 2014 and 2016.

Table 3 Ambient Air Quality at the Nearest Monitoring Station

Pollutant	2014	2015	2016
8 Hour Ozone (ppm), 8-Hr Average	0.079	0.076	0.073
Number of days of Federal exceedances (>0.070)	5	2	4
Ozone (ppm), Worst Hour	0.097	0.093	0.083
Number of days of State exceedances (>0.09 ppm)	1	0	0
Number of days of Federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppm) - Worst Hour (Federal Measurements)[1]	0.060	0.060	0.072
Number of days of State exceedances (>.18 ppm)	0	0	0
Number of days of Federal exceedances (0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours	44.0[1]	31.0[1]	*
Number of days above Federal standard (>150 μg/m^3)	0[1]	0[1]	*
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours	28.0	29.4[1]	*
Number of days above Federal standard (>35 μg/m^3)	0	0[1]	*

Note: Camp Pendleton monitoring station, unless otherwise noted.

([1]) indicates data collected from Escondido-E Valley Parkway monitoring station.

(*) indicates insufficient data was available to determine the value.

Source: CARB. 2016b. "2014, 2015, and 2016 Annual Air Quality Data Summaries." http://www.arb.ca.gov/adam/topfour/topfour1.php. (accessed March 21, 2018).

2.1.4 Air Quality Management Plan

The federal Clean Air Act Amendments (CAAA) mandates that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of Air Quality Management Plans (AQMPs) and adopted rules and regulations by each local APCD and AQMD, which are submitted for approval to CARB and the USEPA. The goal of an AQMP is to reduce pollutant concentrations below the National Ambient Air Quality Standards (NAAQS) through the implementation of air pollutant emissions controls.

The San Diego Regional Air Quality Strategy (RAQS) was developed pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991 and was updated in 1995, 1998, 2001, 2004, 2009, and most recently in December 2016 (SDAPCD 2016). The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the State ozone standard. The pollutants addressed in the RAQS are VOCs and NO_X, precursors to the

photochemical formation of ozone (the primary component of smog). The RAQS was initially adopted by the SDAPCD Board on June 30, 1992, and amended on March 2, 1993, in response to CARB comments. At present, no attainment plan for PM_{10} or $PM_{2.5}$ is required by the State regulations. However, SDAPCD has adopted measures to reduce particulate matter in San Diego County. These measures range from regulation against open burning to incentive programs that introduce cleaner technology. These measures can be found in a report titled *"Measures to Reduce Particulate Matter in San Diego County"* (2005) found on the SDAPCD website (http://www.sdapcd.org).

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County as part of the development of the individual General Plans. As such, projects that propose development consistent with the growth anticipated by the general plans would be consistent with the RAQS. 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. 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.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

2.1.5 Local Regulations

The City of Oceanside's General Plan (2002) contains a set of goals, policies, and recommendations that represent a shared vision for the future of Oceanside. It establishes a framework for ensuring that changes to the built environment, whether public or private, aid in maintaining or improving specific communities while enhancing community qualities as a place for living, recreating, and working. The General Plan Environmental Resource Management Element contains policies related to the City's sustainable land development goals. The policy specifically related to air quality is as follows:

- **Air Quality 1.** Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.

2.1.6 Sensitive Receptors

As discussed in Section 2.1.4, *Air Quality Regulation*, ambient air quality standards have been established by the USEPA and CARB to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14, the elderly over 65, persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore schools, hospitals, and residences.

The nearest sensitive receptors that may be affected by air quality impacts associated with project construction or operation include single-family residences located approximately 110 feet southeast of the project site along Mission Avenue. Additionally, San Luis Rey Elementary School (3535 Hacienda Drive) is located approximately 0.5 mile east of the project site.

2.2 Impact Analysis

2.2.1 Significance Thresholds

State Thresholds

Pursuant to Appendix G of the CEQA Guidelines, impacts related to air quality would be significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

Regional Thresholds

The SDAPCD has adopted numerical thresholds to analyze the significance of a project's construction and operational emissions. These thresholds are designed such that a project consistent with the thresholds would not have an individually or cumulatively significant impact to the SDAB's air quality. These thresholds are also used by planning agencies and local jurisdictions for comparative purposes when evaluating projects under CEQA. Thus, a project that does not exceed these SDAPCD thresholds would have a less than significant impact in regard to the second and third items listed above. The significance thresholds for temporary construction and long-term operational emissions in the SDAB are shown in Table 4, and apply to the project site.

Table 4 SDAPCD Screening Level Significance Thresholds

Pollutant	Total Emissions	
	Pounds/Day	Tons/Year
ROG/VOCs	75[1]	13.7[2]
NO_x	250	40
CO	550	100
SO_x	250	40
PM_{10}	100	15
$PM_{2.5}$	55[3]	10[3]

[1] Threshold for VOCs based on the threshold of significance for VOCs from the SCAQMD for the Coachella Valley.

[2] 13.7 tons per year threshold based on 75 lbs/day multiplied by 365 days/year and divided by 2,000 lbs/ton.

[3] EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.

Source: San Diego County. March 2007. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality*. http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.

San Diego County CO Emissions Significance Thresholds

CO emissions are the result of the combustion process, and therefore primarily associated with mobile source emissions (vehicles). CO concentrations tend to be higher in urban areas where there are many mobile-source emissions. CO "hotspots" or pockets where the CO concentration exceeds the NAAQS and/or CAAQS, have been found to occur only at signalized intersections that operate at or below level of service (LOS) E with peak-hour trips for that intersection exceeding 3,000 trips (San Diego County 2007). Pursuant to the County's CEQA Significance Determination Thresholds, a site-specific CO hotspot analysis should be performed to determine if health standards are potentially violated and to identify any affected sensitive receptor if a proposed development would:

- Place receptors within 500 feet of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips)
- Cause road intersections to operate at or below a LOS E (with intersection peak-hour trips exceeding 3,000)
- Result in emissions of CO that when totaled with the ambient concentrations, will exceed 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm

2.2.2 Study Methodology

Air quality modeling was performed in general accordance with the statutory requirements outlined in the SDAPCD 2016 RAQS to identify both construction and operational emissions associated with the proposed project. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2, which incorporates current air emission data, planning methods, and protocols.

Construction activities such as grading and excavation would generate diesel and dust emissions. The use of construction equipment would generate criteria air pollutant emissions. For modeling purposes, it was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project were quantified by estimating the types and quantity of equipment that would be used on-site during each of the construction phases, based on CalEEMod defaults. Construction emissions are analyzed using the

regional thresholds established by the SDAPCD and published under Rule 20.2 (SDAPCD Rules and Regulations).

Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by motor vehicle trips associated with operation of the project. Emissions attributed to energy use include electricity and natural gas consumption for general electricity as well as the kitchen, refrigeration system, and heating and cooling systems. Area source emissions are generated by landscape maintenance equipment, use of consumer products, and painting. Stationary source emissions from fuel storage and dispensing were also calculated based on guidance for underground storage tanks provided by South Coast Air Quality Management District (SCAQMD 2017). The emissions factor for VOCs contained in that guidance were established by CARB and include emissions from loading, storing, dispensing, and spills or leaks from all components of transfer and dispensing facilities. To determine whether a regional air quality impact would occur, the increase in total emissions is compared to the SDAPCD recommended regional thresholds for operational emissions.

Consistency with Applicable Regulatory Requirements

SDAPCD Rules

The project would be required to comply with SDAPCD Rules 52, 54, and 55 which identify measures to reduce fugitive dust and are required to be implemented at all construction sites located within the SDAB. The following conditions, which are required to reduce fugitive dust in compliance with SDAPCD Rules 52, 54, and 55 were included in CalEEMod for site preparation and grading phases of construction.

1 **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.

2 **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.

3 **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.

4 **Street Sweeping.** Construction contractors should sweep all visible roadway dust as result of active operations at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the project includes the use of low-VOC paint (50 grams per liter [g/L] for non-flat coatings) as required by SDAPCD Rule 67.0.1.

2.2.3 Project Impacts

Temporary Construction Impacts

Table 5 summarizes maximum daily and annual emissions of pollutants throughout the construction period of the project. Emissions of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ would not exceed SDAPCD screening level thresholds during project construction, assuming adherence to the conditions listed above required by SDAPCD Rules 52, 54, 55, and 67.

Table 5 Maximum Daily and Annual Construction Emissions

	Maximum Emissions[1]					
Emissions Source	**VOC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Daily Construction Emissions (lb/day)						
2019 Maximum	5.8	26.9	24.2	<0.1	6.0	3.4
SDAPCD Screening Level Thresholds	75	250	550	250	100	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Construction Emissions (tons/yr)						
2019 Maximum	0.3	1.8	1.2	<0.1	0.2	0.2
SDAPCD Screening Level Thresholds	13.7	40	100	40	15	10
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: All calculations were made using CalEEMod v.2016.3.2. See Appendix A for calculations. Grading, Paving, Building Construction, and Architectural Coating totals include worker trips, soil import hauling trips, construction vehicle emissions and fugitive dust. Totals may not add up due to rounding. Emission data is pulled from "mitigated" results that include compliance with regulations and project design features that will be included in the project.

[1] Grading phases incorporate anticipated emissions reductions from the conditions listed above, which are required by SDAPCD Rules 52, 54, and 55 to reduce fugitive dust. The architectural coating phases incorporate anticipated emissions reductions from the conditions listed above, which are required by SDAPCD Rule 67.

2.2.4 Long-Term Regional Impacts

Operational Air Pollutant Emissions

Table 6 summarizes estimated emissions associated with operation of the project. The majority of operational emissions generated would be due to mobile emissions from vehicle trips to and from the project site. As shown in Table 6, emissions generated during the operation of project would not exceed SDAPCD screening level thresholds for VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$. Therefore, the project's regional air quality impacts would be less than significant.

Table 6 Project Operational Emissions (lbs/day)

	Estimated Emissions (lbs/day)					
Emissions Source	**VOC**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area	0.6	<0.1	<0.1	0.0	<0.1	<0.1
Energy	<0.1	0.4	0.3	<0.1	<0.1	<0.1
Mobile	8.4	27.8	63.1	0.1	6.8	2.0
Project Total	**9.0**	**28.2**	**63.4**	**0.1**	**6.8**	**2.0**
SDAPCD Screening Level Thresholds	75	250	550	250	100	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Numbers may not add up due to rounding.
See Appendix A for CalEEMod output.

Carbon Monoxide Hotspot Analysis

As previously discussed, carbon monoxide is a colorless, odorless, poisonous gas that may be found in high concentrations near areas of high traffic volumes. CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. The SDAB is in attainment of State and federal CO standards. The Escondido-E Valley Parkway monitoring station (600 East Valley Parkway, Escondido) is the monitoring station located closest to the project site that provides CO data. The maximum 8-hour average CO level recorded in 2012 was 3.7 ppm, which is well below the 9 ppm state and federal eight-hour standard.

Nonetheless, a CO hotspot analysis is required by the County if a proposed development would cause road intersections to operate at or below a LOS E while exceeding 3,000 peak-hour trips. The Transportation Impact Study (TIS) prepared for the project studied multiple intersections in the vicinity of the project site, as well as the proposed driveways for the project (Kimley-Horn 2018, on file with the City of Oceanside). The TIS found that the project would generate approximately 4,434 daily trips once fully operational, which include 301 peak morning trips and 376 peak afternoon trips on the roadways surrounding the project site. Table 7 provides a summary of existing and existing plus project intersection level of service based on the TIS. As shown therein, four intersections would operate at or below LOS E under 2030 conditions with the project (Kimley-Horn 2018).

Table 7 Intersections Operating at or Below LOS E With and Without the Project

Intersection	Peak Hour	Existing LOS	Existing + Project LOS	Horizon Year (2030) Baseline	Horizon Year (2030) + Project LOS
Airport Rd & SR 76	AM	D	D	**F**	**F**
	PM	C	C	**F**	**F**
Foussat Rd & SR 76	AM	**E**	**E**	**F**	**F**
	PM	D	D	**F**	**F**
El Camino Real & Mission Ave	AM	D	D	D	**E**
	PM	**E**	**E**	**F**	**F**
Douglas Dr & Mission Ave	AM	B	B	D	D
	PM	B	B	**F**	**F**

Notes: **Bold** values indicate intersections operating at LOS E or F.

Source: Kimley-Horn 2018

As shown in Table 7, all four of these intersections would operate at or below LOS E during AM peak hour, PM peak hour, or both. However, Kimley-Horn recommends mitigation to ensure that the Airport Road & SR 76 and Foussat Road & SR 76 intersections would operate at or above LOS D. The mitigation contained in the TIS targeted at improving these two intersections consists of widening SR 76 from four to six lanes to alleviate congestion and LOS deterioration. Therefore, a CO hotspot analysis is not required for these intersections and project-generated trips would not result in, or substantially contribute to, CO concentrations that exceed the eight-hour ambient air quality standards for these intersections.

To mitigate the impact at the El Camino Real & Mission Avenue intersection, the TIS recommends that the northbound shared left-thru lane be restriped to be a thru lane and the traffic signal modified so that the north-south direction would provide protected left-turn phasing instead of split service. As illustrated in the TIS, although the mitigation for the El Camino Real & Mission Avenue intersection would improve LOS during both AM and PM peak hour, PM peak hour would still have LOS E after mitigation under horizon year conditions with the project. However, the project would result in 74 additional trips during PM peak hour at the El Camino Real & Mission Avenue intersection under horizon year conditions, to exhibit a total of 4,652 PM peak hour trips. Due to the project's minor contribution to the intersection's forecast PM peak hour traffic volumes, as well as this intersection's LOS being improved from LOS F to E with the recommended mitigation, a CO hotspot analysis is not required for this intersection and project-generated trips would not result in, or substantially contribute to, CO concentrations that exceed the eight-hour ambient air quality standards for these intersections.

With regard to the Douglas Drive & Mission Avenue intersection, although PM peak hour would have LOS F under horizon year conditions with the project, the deterioration in LOS at this intersection is not attributed to added vehicle trips resulting from implementation of the project. As displayed in Table 7, the intersection's LOS would be LOS F under horizon year conditions without implementation of the project. In addition, as shown in the TIS, project-generated traffic would introduce 36 new peak hour trips to the Douglas Drive & Mission Avenue intersection during PM peak hour, resulting in a total of 4,420 PM peak hour trips. Because the project would not cause the intersection to operate at LOS F when it otherwise would not and would add less than one percent of the intersection's forecast traffic volume under horizon year conditions without the project, a CO hotspot analysis is not required for this intersection and project-generated trips would not result in,

or substantially contribute to, CO concentrations that exceed the eight-hour ambient air quality standards for these intersections.

Odors

SDAPCD Rule 51, commonly referred to as the public nuisance rule, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact. In addition, the gas station included in the project would be required to meet SDAPCD Rules 61.3.1 and 61.4.1, which require the use and certification of Phase I and Phase II vapor recovery systems. This vapor recovery system would further reduce fugitive VOC emissions that could cause a noticeable odor.

The project would involve the temporary use of diesel-powered construction equipment, which would generate exhaust that may be noticeable for short durations at adjacent properties. However, construction activities would be temporary and emissions would not exceed SDAPCD thresholds.

Land uses and industrial operations typically associated with odor complains include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, refineries, landfills, dairies, and fiberglass molding. The proposed operations including a car wash, convenience store, retail components, and gas station are not typically associated with objectionable odors, though odors from gasoline products could be noticeable in the immediate vicinity of the site. The project site vicinity contains similar commercial and retail development and is adjacent to CA-76. It is unlikely that the odors from this particular project would be distinguishable from existing sources given the vehicle emissions associated with adjacent roadways in the vicinity of the project site. Therefore, the project would not generate objectionable odors.

Toxic Air Contaminants (TACs)

A toxic air contaminant (TAC) is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. TACs are primarily regulated through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for CARB to utilize when designating substances as TACs. This procedure includes pre-designation research, public participation, and scientific peer review. Pursuant to AB 2588, existing facilities that emit air pollutants above specified levels are required to (1) prepare a TAC emissions inventory plan and report; (2) prepare a risk assessment if TAC emissions are significant; (3) notify the public of significant risk levels; and (4) if health impacts are above specified levels, prepare and implement risk reduction measures.

For purposes of CEQA, the preparation of health risk assessments (HRAs) to evaluate the human health-based consequences of TAC emissions for land use development projects may be warranted under two sets of circumstances:

- A proposed project itself generates TACs as a result of construction and/or operational activities that may adversely impact sensitive receptors (e.g., residents), and/or
- A proposed project is located in an area that may adversely expose sensitive receptors associated with its proposed land uses to significant concentrations of TACs from existing

stationary and/or mobile sources of TACs (e.g., a fossil-fueled power plant, a high-volume freeway or roadway, a gas station, etc.).

High-volume TAC generators that are listed as potential health risk sources include the operation of commercial diesel engines and truck stops, landfills and incinerators, and chemical manufacturers (CARB 2005). The proposed project includes the construction and operation of a gas station, among other uses, which is identified in the CARB *Air Quality and Land Use Handbook* (2005) as a facility type that emits TACs, mainly benzene. Construction activities may also result in the generation of TACs. However, the construction period estimated for the project would be temporary and limited to approximately eight months. While gasoline-dispensing facilities account for a small part of the total benzene emissions in the County, near source exposures for large facilities, with throughputs of 3.6 million gallons per year or greater of gasoline, can be significant (CARB 2005). Facilities with annual throughput of less than 3.6 million gallons of gasoline per year are considered typical facilities. The proposed project is conservatively estimated to have a total product throughput of 3.6 million gallons per year of gasoline and diesel; however, annual gasoline throughput is anticipated to total 1.5 million gallons per year.

CARB recommends avoiding placing large gasoline dispensing facilities within 300 feet of sensitive land uses or typical gasoline dispensing facilities within 50 feet of sensitive land uses, since health risks are drastically reduced with increasing fence line distance between the pollutant source and receptor (CARB 2005). The proposed project is a typical gasoline dispensing facility and, therefore, could impact sensitive receptors within 50 feet. The sensitive receptors nearest to the project site are 100 feet to the south, which is beyond CARB's recommended 50-foot distance for typical facilities. Therefore, construction and operation of the proposed gas station would not expose residents in the vicinity to substantial pollutant concentrations. Furthermore, construction and operational emissions for the project (Tables 5 and 6) are well below the County's criteria pollutants screening level thresholds, which are designed to be protective of public health.

Mobile emissions during project operations would primarily be composed of passenger and light-duty vehicles accessing the restaurants, gas station, car wash, vehicle maintenance, and retail components. There are no proposed truck-stop type operations or space to park large trucks overnight and the project would not likely attract a large number of trips from large or heavy-duty vehicles that could generate mobile diesel emissions. Due to the retail and restaurant commercial nature of the proposed use, it would be reasonable to anticipate one truck trip per week per business for distribution purposes. Therefore, construction and operation of the proposed project would not generate TACs that would adversely impact sensitive receptors in the vicinity of the project site.

RAQS Consistency

The RAQS relies on information from CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. Projects that propose development that is consistent with the growth anticipated by the City's General Plan is consistent with the RAQS.

According to demographic and socioeconomic estimates provided by the SANDAG Data Surfer database, the City of Oceanside is forecast to increase the number of civilian jobs by 29 percent between 2012 and 2050 from 41,980 jobs to 53,998 jobs (SANDAG 2015). The project is anticipated to provide an estimated 64 new employment opportunities (The Natelson Company, Inc. 2001), and these positions are expected to be filled by Oceanside residents. Project employment opportunities

would account for approximately 0.5 percent[2] of the job growth forecast by SANDAG for the City of Oceanside. Because the project is not residential it would not generate direct population or housing growth and the relatively small employment growth associated with the project would be consistent with SANDAG's employment forecast and the City's General Plan. Therefore, the project is consistent with the RAQS.

2.3 Conclusion

Implementation of the proposed project would not result in exceedances of applicable short-term construction and long-term operational air quality thresholds. After implementation of mitigation recommended in the TIS conducted by Kimley-Horn (2018), the project would not generate significant impacts related to CO hotspots. Nor would the project generate significant impacts related to odors and the project would be consistent with RAQs. Therefore, no additional measures beyond those required by SDAPCD rules and the Kimley-Horn Transportation Impact Study are needed to reduce project air quality impacts.

[2] Project employment as percentage of SANDAG employment forecast for unincorporated County: (64 project jobs / [53,998 2050 jobs – 41,980 jobs]) * 100 = 0.5 percent.

3 Greenhouse Gases

3.1 Background

This section analyzes greenhouse gas (GHG) emissions associated with the project and potential impacts related to climate change.

3.1.1 Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC 2014), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHG because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (California Environmental Protection Agency [CalEPA] 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (IPCC 2007).

3.1.2 Greenhouse Gas Emissions Inventory

Worldwide anthropogenic emissions of GHG were approximately 46,000 million metric tons (MMT, or gigatonnes) of CO_2e in 2010 (IPCC 2014). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO_2 was the most abundant accounting for 76 percent of total 2010 emissions. CH_4 emissions accounted for 16 percent of the 2010 total, while N_2O and fluorinated gases account for 6 and 2 percent respectively (IPCC 2014).

Total U.S. GHG emissions were 6,586.7 million metric tons (MMT or gigatonnes) CO_2e in 2015 (U.S. EPA 2017). Total U.S. emissions have increased by 3.5 percent since 1990; emissions decreased by 2.3 percent from 2014 to 2015 (USEPA 2017). The decrease from 2014 to 2015 was due to was a result of multiple factors, including: (1) substitution from coal to natural gas consumption in the electric power sector; (2) warmer winter conditions in 2015 resulting in a decreased demand for heating fuel in the residential and commercial sectors; and (3) a slight decrease in electricity demand (USEPA 2017). Since 1990, U.S. emissions have increased at an average annual rate of 0.2 percent. In 2015, the industrial and transportation end-use sectors accounted for 29 percent and 27 percent of CO_2 emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 16 percent and 17 percent of CO_2 emissions, respectively (USEPA 2017).

Based on the CARB California Greenhouse Gas Inventory for 2000-2015, California produced 440.4 MMT of CO_2e in 2015 (CARB 2017a). The major source of GHG in California is transportation, contributing 39 percent of the state's total GHG emissions. Industrial sources are the second largest source of the state's GHG emissions, contributing 23 percent of the state's GHG emissions (CARB 2017a). California emissions are due in part to its large size and large population compared to other states. However, the state's mild climate reduces California's per capita fuel use and GHG emissions as compared to other states. The CARB has projected statewide unregulated GHG emissions for the year 2020 will be 509 MMT of CO_2e (CARB 2017a). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

3.1.3 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air, land, and water temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT, as well as sea surface temperatures, has increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014).

Potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years

(CalEPA 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in many areas of California. Climate change may increase the concentration of ground-level O_3, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC] 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR] 2008; California Climate Change Center [CCCC] 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050, and 40 to 65 percent by 2100. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR 2008, 2013).

Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. According to The Impacts of Sea-Level Rise on the California Coast, prepared by the CCCC, climate change has the potential to induce substantial sea level rise in the coming century (CCCC 2009). The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO] 2013).

As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO 2013). Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report (2014) predicts a mean sea–level rise of 11-38 inches by 2100. This prediction is more than 50 percent higher than earlier projections of 7-23 inches, when comparing the same emissions scenarios and time periods. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. In addition, increased CO_2 emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC 2006).

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on the local and global levels. Increasing concentrations of GHGs are likely to accelerate the rate and severity of climate change impacts. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) during the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006).

3.1.4 Regulatory Setting

The following regulations address both climate change and GHG emissions.

California Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. California has a numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low

Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020, and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT of CO_2e. The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines CARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 statewide goals. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the state's longer-term GHG reduction strategies with other state policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (CARB 2014).

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

Senate Bill 375

Senate Bill (SB) 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035.

Senate Bill 32

On September 8, 2016, Governor Brown signed Senate Bill 32 (SB 32) into law, expanding AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017

Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017b). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

Senate Bill 1383

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40% below 2013 levels
- Hydrofluorocarbons – 40% below 2013 levels
- Anthropogenic black carbon – 50% below 2013 levels

The bill also requires CalRecycle, in consultation with the State board, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 350

Adopted on October 7, 2015, SB 350 supports the reduction of GHG emissions from the electricity sector through a number of measures, including requiring electricity providers to achieve a 50 percent renewables portfolio standard by 2030 and a cumulative doubling of statewide energy efficiency savings from retail electricity and natural gas by 2030.

California Environmental Quality Act

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

Regional Regulations

San Diego County Climate Action Plan

San Diego County is in the process of developing a Climate Action Plan (CAP) that will serve as a comprehensive strategy guide to reduce GHG emissions in the unincorporated communities of San Diego County. The CAP will outline specific reduction methods residents and businesses can implement to reduce GHG emissions and aid the County in meeting state-mandated GHG reduction targets. Currently, the County is on a trajectory to meet its 2020 GHG reduction target through existing State legislative actions (such as improved vehicle efficiency standards, increased adoption

of electric vehicles, and improved State's Building Energy Efficiency Standards). The County's CAP aims to meet State emissions reduction targets by implementing a County-wide target of annual GHG emissions reductions of 40 percent below 2014 levels by 2030, and 77 percent below 2014 levels by 2050 (San Diego County 2017a). The County CAP is anticipated to be adopted by winter 2018.

San Diego County Greenhouse Gas Inventory

The University of San Diego, School of Law's Energy Policy Initiative Center prepared a regional GHG inventory (EPIC 2013) for San Diego County. This San Diego County Greenhouse Gas Inventory took into account the unique characteristics of the region in calculating emissions. The study found that emissions of GHGs must be reduced by 33 percent below business as usual (BAU) in order for San Diego County to achieve 1990 emission levels by 2020.

San Diego Forward: The Regional Plan

SANDAG adopted San Diego Forward: The Regional Plan in 2015, which combines the Regional Comprehensive Plan (RCP) from 2004 with the 2050 RTP/SCS (Regional Plan). The Regional Plan serves as the blueprint for growth in the San Diego region and SANDAG's planned investments in transportation infrastructure to provide more choices, strengthen the economy, promote a healthy environment, and support thriving communities. The Regional Plan sets forth the following six general objectives: Habitat and Open Space Preservation, Regional Economic Prosperity, Environmental Stewardship, Providing Mobility Choices, Partnerships/Collaboration with neighboring entities, and creating Healthy and Complete Communities.

The Regional Plan charts a course towards lowering GHG emissions and includes the following five building blocks:

- A land use pattern that accommodates our region's future employment and housing needs, and protects sensitive habitats, cultural resources, and resource areas
- A transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with reasonably expected funding
- Managing demands on our transportation system (also known as Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand
- Managing our transportation system (also known as Transportation System Management, or TSM) through measures that maximize the overall efficiency of the transportation network
- Innovative pricing policies and other measures designed to reduce the number of miles people travel in their vehicles, as well as traffic congestion during peak periods of demand

Local Regulations

Oceanside General Plan

The City's General Plan Circulation Element includes smart growth and land use planning principles designed to reduce vehicle miles traveled (VMT), which would result in a reduction in GHG emissions (Oceanside 2012). Policies intended to improve circulation, which subsequently contribute to GHG emission reductions, are as follows:

- **GOAL 1:** A multimodal transportation system, which allows for the efficient and safe movement of all people and goods and which meets current demands and future needs of the population and projected land uses with minimal impact on the environment.
- **GOAL 2:** Alternative modes of transportation to reduce the dependence on the automobile.
- **GOAL 3:** Alternative transportation strategies designed to reduce traffic volumes and improve traffic flow.

The City's General Plan Environmental Resource Management Element also contains one air quality policy and an implementation program, which are provided below (Oceanside 2002).

- **Air Quality Policy 1:** Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.
- **Air Quality Implementation Program 1:** The City will continue to cooperate with the San Diego County Air Pollution Control Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

City of Oceanside Climate Action Plan and Thresholds of Significance

The City of Oceanside is currently working on a draft CAP. In the interim, the City has provided a memorandum outlining their approach to analyzing GHG emissions resulting from new development. In this memorandum, the City suggests using screening thresholds published by CAPCOA for determining the need for additional analyses and mitigation for GHG-related impacts under CEQA, which suggest projects producing less than 900 MT of CO_2e per year would be considered less than significant. The City requires that GHG emissions impacts for new development projects exceeding the state-prescribed 900 metric ton carbon dioxide equivalent (MT of CO_2e) per year threshold be assessed utilizing the per service population methodology, which establishes a threshold of 4.0 MT of CO_2e per year per service population for projects scheduled to be fully implemented by 2020 (Oceanside 2018).

3.2 Impact Analysis

3.2.1 Significance Thresholds

Pursuant to Appendix G of the *State CEQA Guidelines*, impacts related to GHG emissions from the project would be significant if the project would:

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

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the

effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

Neither the State of California nor the SDAPCD has adopted emission-based thresholds for GHG emissions under CEQA. Instead, the *State CEQA Guidelines* authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (14 CCR 15064.4(a) and 15064.7(c)). The OPR Technical Advisory titled *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (CEQA)* Review states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts (2008). Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (CAPCOA 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact," individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice. "A lead agency should make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project" (14 CCR 15064.4).

As mentioned under, *City of Oceanside Thresholds of Significance*, according to the City of Oceanside's Planning Division Policy Directive 2018-01 (Oceanside 2018), the annual 900 MT of CO_2e screening level referenced by CAPCOA (2008) is being used as a conservative criterion for determining the size of projects that would require further analysis and mitigation with regard to climate change. The CAPCOA white paper reports that the 900 MT of CO_2e screening level would capture more than 90% of development projects, allowing for mitigation towards achieving the State's 2030 GHG reduction goals. Prior to adoption of a CEQA-qualified CAP and associated development checklist, the City requires that GHG emissions impacts for new development projects exceeding the State-prescribed 900 MT of CO_2e per year "bright line" threshold of significance be assessed utilizing the efficiency/service population methodology, which is the basis for the emissions reduction targets established in the City's Draft CAP. In line with these draft emissions reduction targets, projects scheduled to be fully implemented by 2020 are subject to a 4.0 MT of CO_2e per year per service population threshold. However, the per service population threshold is intended to not inadvertently penalize large efficient projects that would otherwise exceed the "bright line" threshold. Because the project is a relatively small development and is anticipated to have only 64 employees, the per service population threshold would require the project to meet a threshold of 256 MT of CO_2e per year. Therefore, the 900 MT of CO_2e per year "bright line" threshold is applied herein.

Construction Emissions

The Association of Environmental Professionals (AEP) Climate Change Committee white paper stated that construction emissions can be evaluated in one of two methods (2007).

- **Using best management practices (BMPs)**. Construction-related emissions would be less than significant if a project implements all feasible BMPs, including alternatively fueled vehicles, reduction of worker trips, and sourcing construction materials from local sources when possible (without substantial cost implications).

- **Amortizing construction emissions over the operational lifetime**. Construction-related emissions are quantified and amortized over the lifetime of a project. The amortized construction emissions are added to the operational emissions to calculate the total annualized emissions. If the annualized emissions are below quantitative thresholds, GHG emissions would be less than significant.

Option two is used as the threshold in analyzing this project, based on a 30-year amortization of construction emissions from CalEEMod results (Appendix A).

Operational Emissions

The AEP Climate Change Committee white paper (2007) identified seven thresholds for operational emissions. The following four methods described are the most widely used evaluation criteria.

- **Consistency with a qualified GHG reduction plan**. For a project located within a jurisdiction that has adopted a qualified GHG reduction plan (as defined by CEQA Guidelines Section 15183.5), GHG emissions would be less than significant if the project is anticipated by the plan and fully consistent with the plan. However, projects with a horizon year beyond 2020 should not tier from a plan that is qualified up to 2020.
- **Bright line thresholds**. There are two types of bright line thresholds:
    i. Standalone threshold: Emissions exceeding standalone thresholds would be considered significant.
    ii. Screening threshold: Emissions exceeding screening thresholds would require evaluation using a second tier threshold, such as per service population threshold to determine whether project emissions would be considered significant.

    However, projects with a horizon year beyond 2020 should take into account the type and amount of land use projects and their expected emissions out to the year 2030.
- **Efficiency thresholds**. Land use sector efficiency thresholds are currently based on AB 32 targets and should not be used for projects with a horizon year beyond 2020. Efficiency metrics should be adjusted for 2030 and include applicable land uses.
- **Percent below "Business as Usual" (BAU).** GHG emissions would be less than significant if the project reduces BAU emissions by the same amount as the statewide 2020 reductions. (However, this method is no longer recommended following the Newhall Ranch ruling [AEP 2016].)

According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. However, as mentioned under, *City of Oceanside Thresholds of Significance*, the City does not yet have a certified CAP in place. As stated above, project efficiency thresholds consistent with statewide 2030 emissions reduction targets have not yet been established for projects beyond horizon year 2020, and the BAU threshold, which was considered to be the most defensible approach available under CEQA to determine the significance of a project's GHG emissions, is no longer recommended following the Newhall Ranch ruling (AEP 2016). Therefore, the application of CAPCOA's threshold of 900 MT of CO_2e for annual operations is the most appropriate threshold for analyzing this project.

3.2.2 Study Methodology

This analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association [CAPCOA] (2008) *CEQA and Climate Change* white paper and focuses on CO_2, N_2O, and CH_4 because these are the GHG emissions that Plan Area development would generate in the largest quantities.

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude and nature of the project's potential GHG emissions and environmental effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because of the nature of the project, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent GWP in MT of CO_2e. Small amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would also be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (CAPCOA 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (CCAR 2009).

GHG emissions associated with the proposed project were calculated using CalEEMod version 2016.3.2 (see Appendix A for calculations).

Construction Emissions

Although construction activity is addressed in this analysis, CAPCOA does not discuss whether the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA 2008). Nevertheless, construction-related emissions are amortized over a 30-year period in conjunction with the proposed project's operational emissions as recommended by AEP (2007).

Construction of the project would generate temporary GHG emissions primarily as a result of operation of construction equipment on-site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to import earth materials on-site. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling.

The project applicant provided the construction schedule, which states that construction would commence in January 2019 and would be completed in August 2019 (approximately eight months total). In addition, approximately 20,000 cubic yards (cy) of fill material would be imported for the proposed project. Proposed construction phases and associated durations include the following:

- Grading (two months)
- Building Construction (five months)
- Architectural Coating (two months)
- Paving (two months)

Emissions associated with the construction period were estimated using the CalEEMod v.2016.3.2 based on the projected maximum amount of equipment that would be used on-site at any given

time during construction activities. Complete results from CalEEMod and assumptions can be viewed Appendix A.

Operational Emissions

CalEEMod calculates operational emissions from the project, which include CO_2, N_2O, and CH_4. Energy-related emissions include emissions from electricity and natural gas use. The emissions factors for natural gas combustion are based on EPA's AP-42 (Compilation of Air Pollutant Emissions Factors) and CCAR. Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (BREEZE Software 2016). The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, USEPA, and district supplied emission factor values (BREEZE Software 2016).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (BREEZE Software 2016). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater use calculated in CalEEMod were based on the default electricity intensity from the California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Southern California.

For mobile sources, CO_2 and CH_4 emissions from vehicle trips to and from the project site were quantified using CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the CCAR General Reporting Protocol (CCAR 2009) direct emissions factors for mobile combustion (see Appendix A for calculations). Trips rates in CalEEMod were adjusted based on trip generation numbers from the traffic report completed for the proposed project (Kimley-Horn 2018). These trip rates were used to derive total annual mileage in CalEEMod. Emission rates for N_2O emissions were based on vehicle mix output generated by CalEEMod and the emission factors found in the CCAR General Reporting Protocol.

3.2.3 Project Impacts

The following discussion summarizes project emissions and compares calculated emissions to CAPCOA's GHG emissions threshold of 900 MT of CO_2e/year.

Construction Emissions

Based on information provided by the project applicant, it is assumed that construction activity would occur over a period of approximately eight months. As shown in Table 8, construction activity for the project would generate approximately 265 MT of CO_2e. When amortized over a 30-year period, construction of the project would generate about 9 MT of CO_2e per year.

Table 8 Estimated Construction Emissions of Greenhouse Gases

	Annual Emissions (MT of CO_2e)
Total	265.3
Amortized over 30 years	8.8

See Appendix A for CalEEMod results

Combined Construction, Stationary, and Mobile Source Emissions

Table 9 combines the amortized construction emissions from Table 8 with the operational and mobile GHG emissions associated with the project. The annual emissions would total approximately 2,750 MT of CO_2e. These emissions exceed the CAPCOA threshold of 900 MT of CO_2e per year. Since GHG emissions would exceed CAPCOA's threshold, the project could generate an increase in GHG emissions that would conflict with AB 32 and SB 32 and result in a significant impact under CEQA.

Table 9 Combined Annual Emissions (MT of CO_2e/year)

Emission Source	Project Emissions
Construction	8.8
Operational	
Area	<0.1
Energy	240.4
Solid Waste	61.2
Water	23.4
Mobile	
CO_2 and CH_4	2,366.8
N_2O	57.7
Total	**2,758.3**
CAPCOA's Threshold	**900**
Exceeds Threshold?	Yes

Source: Calculations were made in CalEEMod; see Appendix A for full model output. Values have been rounded to the nearest tenth.

Recommendations

Based on the CAPCOA's target threshold of 900 MT of CO_2e per year, the project would need to reduce its annual emissions by 1,858 MT of CO_2e, or 67 percent. As shown in Table 9, 88 percent of the project's GHG emissions, or 2,424 MT of CO_2e, would result from vehicle trips generated by the project. Reducing vehicle trips and vehicle emissions is largely addressed at the regional and statewide levels through land use and transportation policies, such as SB 375, and vehicle emission policies, programs, and incentives, such as the low carbon fuel standard, Clean Cars Program, and zero emission vehicles (ZEV) program. While project-level options for reducing vehicle trips are limited, the following recommendations would help reduce the project's GHG emissions impact.

GHG Reduction Plan

Prior to permit issuance, the project developer should prepare and implement a project GHG Reduction Plan to reduce annual GHG emissions by a minimum of 1,858 MT of CO_2e per year over the operational lifetime of the project. The plan would be implemented on-site by the project applicant and may include, but is not limited to, the following:

On-site Emission Reduction Measures:

- Installing energy efficient equipment, appliances, heating, and cooling exceeding California Green Building Code standards
- Installing renewable energy sources
- Implementing energy efficient building design exceeding California Building Code requirements
- Installing green roofs
- Promoting water conservation and recycling, such as through the use of irrigation controllers
- Purchasing carbon offsets through an accredited program

Mobile Source Emission Reduction Measures:

- Promoting alternative fuel vehicles, such as by providing additional EV charging infrastructure and designating parking spaces for ZEV or hybrid vehicles
- Providing incentives and outreach for future tenants to promote employee ridesharing and transit use

Applicable elements of the GHG Reduction Plan should be reflected on project site plans prior to permit approval. The GHG Reduction Plan should be reviewed and approved by the City of Oceanside in coordination with the SDAPCD prior to the issuance of grading permits. If GHG emissions cannot be reduced to 900 MT of CO_2e per year through compliance with such a plan, the applicant should purchase carbon offsets prior to grading permit approval. Carbon offsets should be purchased from a validated source[3] to offset annual GHG emissions or to offset one-time carbon stock GHG emissions.

The recommendations outlined above could feasibly reduce GHG-related impacts to closer meet the 900 MT of CO_2e threshold. As demonstrated in Table 10, although the GHG Reduction Plan could include a mix of options, providing renewable energy production like solar panels on-site to provide 80 percent of energy needs, and reducing solid waste disposal by 75 percent would reduce the project's GHG emissions by 238 MT of CO_2e per year. However, the remaining 1,620 MT of CO_2e per year needed to meet the 900 MT of CO_2e per year threshold would require the purchase of carbon credits, as mentioned above.

[3] Validated sources are carbon offset sources that follow approved protocols and use third-party verification. At this time, appropriate offset providers include only those that have been validated using the protocols of the Climate Action Registry, the Gold Standard, or the Clean Development Mechanism (CDM) of the Kyoto Protocol. Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the CDM standards. For more information on responsible purchasing of carbon offsets, see the Responsible Purchasing Network's *Responsible Purchasing Guide* at: http://www.responsiblepurchasing.org/purchasing_guides/carbon_offsets/purchasing_guide.pdf .

Table 10 Annual Emissions of GHGs with Recommendations Incorporated

Emission Source	Project Emissions
Construction	8.8
Operational	
Area	<0.1
Energy	48.0
Solid Waste	15.3
Water	23.4
Mobile	
CO_2 and CH_4	2,366.8
N_2O	57.7
Total	**2,520.3**
CAPCOA's Threshold	**900**
Exceeds Threshold?	Yes

Source: Calculations were made in CalEEMod; see Appendix A for full model output. Values have been rounded to the nearest tenth.

Conclusions after Recommendations

Implementation of the recommendations above would reduce GHG emissions to the extent feasible.

Consistency with GHG Reduction Plans and Policies

As discussed above under Local Regulations, the City's Circulation Element of the General Plan contains several policies related to GHG emissions reduction for new development. Table 11 provides a qualitative assessment of the proposed project using the County's General Plan policies relevant to the project, and demonstrates how the project would be consistent with the GHG emissions reduction policies contained in the City's General Plan.

Table 11 Consistency with Oceanside General Plan Policies

General Plan Policy	Project Consistency
Circulation Element	
GOAL 1: A multimodal transportation system, which allows for the efficient and safe movement of all people and goods and which meets current demands and future needs of the population and projected land uses with minimal impact on the environment.	**Not Applicable.** This goal is intended for the City's transportation network and does not apply to the proposed project.
GOAL 2: Alternative modes of transportation to reduce the dependence on the automobile.	**Inconsistent.** Although this goal is intended for the City's transportation network and does not apply to the proposed project, the project includes two drive-thru restaurants, a car wash, and a gas station, the uses of which all involve automobiles. However, the project would also provide access to alternative modes of transportation, such as future installation of a ZEV charging station and being located immediately adjacent to two transit bus stops. These project features would help reduce the dependence on automobiles that the above land uses are normally associated with.

General Plan Policy	Project Consistency
GOAL 3: Alternative transportation strategies designed to reduce traffic volumes and improve traffic flow.	**Not Applicable.** This goal is intended for the City's transportation network and does not apply to the proposed project.
Environmental Resource Management Element	
Air Quality Policy 1: The City shall cooperate with the San Diego County Air Pollution Control Board, and participate in the Regional Air Quality Control Strategy.	**Consistent.** This policy is intended for the City of Oceanside. However, the project would comply with SDAPCD rules and policies and state and regional GHG reduction goals with the implementation of the recommended measures above.
Air Quality Implementation Program 1: The City will continue to cooperate with the San Diego County Air Pollution Control Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.	**Consistent.** This policy is intended for the City of Oceanside. However, the project would comply with SDAPCD rules and policies and state and regional GHG reduction goals with the implementation of the recommended measures above.

Source: Oceanside 2002

Recommendations

As discussed above, prior to permit issuance, the project developer should prepare and implement a project GHG Reduction Plan to reduce annual GHG emissions by a minimum of 2,502 MT of CO_2e per year over the operational lifetime of the project.

Significance after Recommendations

Implementation of the recommendations above would reduce GHG emissions to avoid exceeding CAPCOA's project specific threshold. The reduction of GHG emissions resulting from the implementation of the recommendations would ensure the project's consistency with applicable GHG emission reduction targets and policies.

Cumulative Impacts

Impacts associated with GHG emissions are cumulative by nature and understood on a global scale, as the accumulation of GHGs in the atmosphere contributes to climate change. The vast majority of individual projects do not generate sufficient GHG emissions to create an individual project-specific impact through a direct influence to climate change. Therefore, the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (State CEQA Guidelines, Section 15355).

The State, SDAPCD, San Diego County, and the City of Oceanside have not adopted GHG emissions thresholds to determine if individual projects are cumulatively considerable. However, the City of Oceanside has established a Policy directive to use CAPCOA's 900 MT of CO_2e threshold prior to the adoption of a CEQA-qualified CAP and associated development checklist. Therefore, for the purpose of this analysis, a project which falls below the CAPCOA impact threshold of 900 MT of CO_2e is considered to have a less than significant impact, both individually and cumulatively. As indicated above, implementation of the recommendations would reduce GHG emissions associated with the proposed project below applicable thresholds. Therefore, the proposed project's GHG impacts would not be cumulatively considerable with the implementation of the above recommendations.

3.3 Conclusion

Following the County's 2015 GHG guidance and the GHG analysis methodology outlined in AEP's white paper (2016), the project would generate emissions in exceedance of CAPCOA's threshold of 900 MT of CO_2e. However, with the implementation of the recommendations herein, the project would reduce its construction and operational GHG emissions to avoid exceedance of CAPCOA's significance threshold. In addition, as shown in Table 11, the project would not conflict with the GHG reduction policies included in the City's General Plan. The project would be consistent with applicable land use and zoning designations. With the implementation of a GHG Reduction Plan, the project would not conflict with State regulations intended to reduce GHG emissions statewide and would be generally consistent with applicable plans and programs designed to reduce GHG emissions.

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AQ/GHG Appendix A

CalEEMod Air Quality and Greenhouse Gas Model Worksheets and Math Equations

OnPoint Oceanside

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	140.00	Space	1.26	56,000.00	0
Fast Food Restaurant with Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	0.07	3,000.00	0
High Turnover (Sit Down Restaurant)	2.40	1000sqft	0.06	2,400.00	0
Automobile Care Center	4.50	1000sqft	0.10	4,500.00	0
Convenience Market (24 Hour)	3.00	1000sqft	0.07	3,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
Strip Mall	1.90	1000sqft	0.04	1,900.00	0
Strip Mall	2.40	1000sqft	0.06	2,400.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/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 - Jan '19 - Dec '19

Land Use - .

Construction Phase - Client-provided construction schedule.

Off-road Equipment -

Grading - 20k cubic yards of imported fill material.

Vehicle Trips - Adjusted per TIA

Energy Use -

Water And Wastewater - Gas Station is captured in the 3,000-sqft convenience market.

Solid Waste - Gas Station is captured in the 3,000-sqft convenience market.

Area Mitigation - SDAPCD Rule 67.0.1

Architectural Coating - SDAPCD Rule 67.0.1

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	10.00	52.00
tblConstructionPhase	NumDays	200.00	106.00
tblConstructionPhase	NumDays	4.00	56.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	11/8/2019	8/21/2019

tblConstructionPhase	PhaseEndDate	10/11/2019	8/14/2019
tblConstructionPhase	PhaseEndDate	1/4/2019	3/19/2019
tblConstructionPhase	PhaseEndDate	10/25/2019	4/17/2019
tblConstructionPhase	PhaseStartDate	10/26/2019	6/11/2019
tblConstructionPhase	PhaseStartDate	1/5/2019	3/20/2019
tblConstructionPhase	PhaseStartDate	10/12/2019	3/21/2019
tblGrading	AcresOfGrading	21.00	1.50
tblGrading	MaterialImported	0.00	20,000.00
tblSolidWaste	SolidWasteGenerationRate	6.47	0.00
tblVehicleTrips	ST_TR	23.72	200.00
tblVehicleTrips	ST_TR	863.10	80.00
tblVehicleTrips	ST_TR	722.03	390.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	128.00
tblVehicleTrips	ST_TR	42.04	36.00
tblVehicleTrips	SU_TR	11.88	200.00
tblVehicleTrips	SU_TR	758.45	80.00
tblVehicleTrips	SU_TR	542.72	390.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	128.00
tblVehicleTrips	SU_TR	20.43	36.00
tblVehicleTrips	WD_TR	23.72	200.00
tblVehicleTrips	WD_TR	737.99	80.00
tblVehicleTrips	WD_TR	496.12	390.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	128.00
tblVehicleTrips	WD_TR	44.32	36.00

tblWater	IndoorWaterUseRate	159,382.67	0.00
tblWater	OutdoorWaterUseRate	97,686.15	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2773	1.8321	1.1952	2.9400e-003	0.1699	0.0796	0.2495	0.0811	0.0758	0.1569	0.0000	264.2442	264.2442	0.0432	0.0000	265.3238
Maximum	**0.2773**	**1.8321**	**1.1952**	**2.9400e-003**	**0.1699**	**0.0796**	**0.2495**	**0.0811**	**0.0758**	**0.1569**	**0.0000**	**264.2442**	**264.2442**	**0.0432**	**0.0000**	**265.3238**

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					
2019	0.2773	1.8321	1.1952	2.9400e-003	0.1699	0.0796	0.2495	0.0811	0.0758	0.1569	0.0000	264.2440	264.2440	0.0432	0.0000	265.3236
Maximum	**0.2773**	**1.8321**	**1.1952**	**2.9400e-003**	**0.1699**	**0.0796**	**0.2495**	**0.0811**	**0.0758**	**0.1569**	**0.0000**	**264.2440**	**264.2440**	**0.0432**	**0.0000**	**265.3236**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.9224	0.9224
2	4-1-2019	6-30-2019	0.7543	0.7543
3	7-1-2019	9-30-2019	0.4201	0.4201
		Highest	0.9224	0.9224

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1343	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003
Energy	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003	0.0000	239.3410	239.3410	8.0700e-003	2.7300e-003	240.3577
Mobile	1.5084	5.6157	12.7907	0.0325	1.5667	0.0345	1.6012	0.4397	0.0323	0.4720	0.0000	2,994.3552	2,994.3552	0.1999	0.0000	2,999.3530
Waste						0.0000	0.0000		0.0000	0.0000	24.6837	0.0000	24.6837	1.4588	0.0000	61.1528
Water						0.0000	0.0000		0.0000	0.0000	1.1242	18.4870	19.6112	0.1162	2.8800e-003	23.3749
Total	**1.6502**	**5.6838**	**12.8495**	**0.0329**	**1.5667**	**0.0397**	**1.6064**	**0.4397**	**0.0375**	**0.4772**	**25.8079**	**3,252.1864**	**3,277.9943**	**1.7830**	**5.6100e-003**	**3,324.2417**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1108	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003
Energy	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003	0.0000	239.3410	239.3410	8.0700e-003	2.7300e-003	240.3577
Mobile	1.4286	5.0958	11.0771	0.0256	1.1825	0.0279	1.2103	0.3319	0.0261	0.3580	0.0000	2,362.5600	2,362.5600	0.1707	0.0000	2,366.8286
Waste						0.0000	0.0000		0.0000	0.0000	24.6837	0.0000	24.6837	1.4588	0.0000	61.1528
Water						0.0000	0.0000		0.0000	0.0000	1.1242	18.4870	19.6112	0.1162	2.8800e-003	23.3749
Total	**1.5468**	**5.1639**	**11.1358**	**0.0260**	**1.1825**	**0.0330**	**1.2155**	**0.3319**	**0.0313**	**0.3631**	**25.8079**	**2,620.3911**	**2,646.1990**	**1.7538**	**5.6100e-003**	**2,691.7173**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.26**	**9.15**	**13.34**	**20.89**	**24.53**	**16.75**	**24.33**	**24.53**	**16.66**	**23.91**	**0.00**	**19.43**	**19.27**	**1.64**	**0.00**	**19.03**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	3/19/2019	5	56	
2	Building Construction	Building Construction	3/20/2019	8/14/2019	5	106	
3	Paving	Paving	3/21/2019	4/17/2019	5	20	
4	Architectural Coating	Architectural Coating	6/11/2019	8/21/2019	5	52	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 38,091; Non-Residential Outdoor: 12,697; Striped Parking Area: 3,360 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	8.00	0.00	1,978.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	32.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1273	0.0000	0.1273	0.0696	0.0000	0.0696	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0398	0.4490	0.1850	3.9000e-004		0.0206	0.0206		0.0190	0.0190	0.0000	35.4700	35.4700	0.0112	0.0000	35.7505
Total	**0.0398**	**0.4490**	**0.1850**	**3.9000e-004**	**0.1273**	**0.0206**	**0.1479**	**0.0696**	**0.0190**	**0.0886**	**0.0000**	**35.4700**	**35.4700**	**0.0112**	**0.0000**	**35.7505**

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	8.6900e-003	0.3031	0.0661	7.8000e-004	0.0169	1.1300e-003	0.0181	4.6500e-003	1.0800e-003	5.7300e-003	0.0000	77.1019	77.1019	6.9800e-003	0.0000	77.2764
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	8.8000e-004	6.8000e-004	6.5500e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6766	1.6766	5.0000e-005	0.0000	1.6780
Total	**9.5700e-003**	**0.3038**	**0.0727**	**8.0000e-004**	**0.0187**	**1.1400e-003**	**0.0199**	**5.1300e-003**	**1.0900e-003**	**6.2200e-003**	**0.0000**	**78.7785**	**78.7785**	**7.0300e-003**	**0.0000**	**78.9544**

3.2 Grading - 2019

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					0.1273	0.0000	0.1273	0.0696	0.0000	0.0696	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0398	0.4490	0.1850	3.9000e-004		0.0206	0.0206		0.0190	0.0190	0.0000	35.4699	35.4699	0.0112	0.0000	35.7505
Total	**0.0398**	**0.4490**	**0.1850**	**3.9000e-004**	**0.1273**	**0.0206**	**0.1479**	**0.0696**	**0.0190**	**0.0886**	**0.0000**	**35.4699**	**35.4699**	**0.0112**	**0.0000**	**35.7505**

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	8.6900e-003	0.3031	0.0661	7.8000e-004	0.0169	1.1300e-003	0.0181	4.6500e-003	1.0800e-003	5.7300e-003	0.0000	77.1019	77.1019	6.9800e-003	0.0000	77.2764
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	8.8000e-004	6.8000e-004	6.5500e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6766	1.6766	5.0000e-005	0.0000	1.6780
Total	**9.5700e-003**	**0.3038**	**0.0727**	**8.0000e-004**	**0.0187**	**1.1400e-003**	**0.0199**	**5.1300e-003**	**1.0900e-003**	**6.2200e-003**	**0.0000**	**78.7785**	**78.7785**	**7.0300e-003**	**0.0000**	**78.9544**

3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1204	0.8470	0.7148	1.1700e-003		0.0485	0.0485		0.0469	0.0469	0.0000	97.0281	97.0281	0.0187	0.0000	97.4944
Total	**0.1204**	**0.8470**	**0.7148**	**1.1700e-003**		**0.0485**	**0.0485**		**0.0469**	**0.0469**	**0.0000**	**97.0281**	**97.0281**	**0.0187**	**0.0000**	**97.4944**

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	3.2300e-003	0.0865	0.0232	1.9000e-004	4.5700e-003	6.0000e-004	5.1700e-003	1.3200e-003	5.7000e-004	1.8900e-003	0.0000	18.3052	18.3052	1.4700e-003	0.0000	18.3419
Worker	6.6900e-003	5.1300e-003	0.0496	1.4000e-004	0.0136	1.0000e-004	0.0137	3.6100e-003	9.0000e-005	3.7100e-003	0.0000	12.6945	12.6945	4.1000e-004	0.0000	12.7047
Total	**9.9200e-003**	**0.0916**	**0.0729**	**3.3000e-004**	**0.0182**	**7.0000e-004**	**0.0189**	**4.9300e-003**	**6.6000e-004**	**5.6000e-003**	**0.0000**	**30.9997**	**30.9997**	**1.8800e-003**	**0.0000**	**31.0467**

3.3 Building Construction - 2019

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	0.1204	0.8470	0.7148	1.1700e-003		0.0485	0.0485		0.0469	0.0469	0.0000	97.0280	97.0280	0.0187	0.0000	97.4943
Total	**0.1204**	**0.8470**	**0.7148**	**1.1700e-003**		**0.0485**	**0.0485**		**0.0469**	**0.0469**	**0.0000**	**97.0280**	**97.0280**	**0.0187**	**0.0000**	**97.4943**

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	3.2300e-003	0.0865	0.0232	1.9000e-004	4.5700e-003	6.0000e-004	5.1700e-003	1.3200e-003	5.7000e-004	1.8900e-003	0.0000	18.3052	18.3052	1.4700e-003	0.0000	18.3419
Worker	6.6900e-003	5.1300e-003	0.0496	1.4000e-004	0.0136	1.0000e-004	0.0137	3.6100e-003	9.0000e-005	3.7100e-003	0.0000	12.6945	12.6945	4.1000e-004	0.0000	12.7047
Total	**9.9200e-003**	**0.0916**	**0.0729**	**3.3000e-004**	**0.0182**	**7.0000e-004**	**0.0189**	**4.9300e-003**	**6.6000e-004**	**5.6000e-003**	**0.0000**	**30.9997**	**30.9997**	**1.8800e-003**	**0.0000**	**31.0467**

3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.0400e-003	0.0917	0.0890	1.4000e-004		5.2200e-003	5.2200e-003		4.8200e-003	4.8200e-003	0.0000	12.0211	12.0211	3.7300e-003	0.0000	12.1143
Paving	1.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.0917**	**0.0890**	**1.4000e-004**		**5.2200e-003**	**5.2200e-003**		**4.8200e-003**	**4.8200e-003**	**0.0000**	**12.0211**	**12.0211**	**3.7300e-003**	**0.0000**	**12.1143**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.9000e-004	3.8000e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9731	0.9731	3.0000e-005	0.0000	0.9738
Total	**5.1000e-004**	**3.9000e-004**	**3.8000e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0500e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9731**	**0.9731**	**3.0000e-005**	**0.0000**	**0.9738**

3.4 Paving - 2019

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	9.0400e-003	0.0917	0.0890	1.4000e-004		5.2200e-003	5.2200e-003		4.8200e-003	4.8200e-003	0.0000	12.0211	12.0211	3.7300e-003	0.0000	12.1143
Paving	1.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.0917**	**0.0890**	**1.4000e-004**		**5.2200e-003**	**5.2200e-003**		**4.8200e-003**	**4.8200e-003**	**0.0000**	**12.0211**	**12.0211**	**3.7300e-003**	**0.0000**	**12.1143**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.9000e-004	3.8000e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9731	0.9731	3.0000e-005	0.0000	0.9738
Total	**5.1000e-004**	**3.9000e-004**	**3.8000e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0500e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9731**	**0.9731**	**3.0000e-005**	**0.0000**	**0.9738**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0477	0.0479	8.0000e-005		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	6.6385	6.6385	5.6000e-004	0.0000	6.6525
Total	**0.0853**	**0.0477**	**0.0479**	**8.0000e-005**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**6.6385**	**6.6385**	**5.6000e-004**	**0.0000**	**6.6525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	9.4000e-004	9.1300e-003	3.0000e-005	4.6700e-003	2.0000e-005	4.6900e-003	1.2000e-003	2.0000e-005	1.2100e-003	0.0000	2.3353	2.3353	8.0000e-005	0.0000	2.3372
Total	**1.2300e-003**	**9.4000e-004**	**9.1300e-003**	**3.0000e-005**	**4.6700e-003**	**2.0000e-005**	**4.6900e-003**	**1.2000e-003**	**2.0000e-005**	**1.2100e-003**	**0.0000**	**2.3353**	**2.3353**	**8.0000e-005**	**0.0000**	**2.3372**

3.5 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0477	0.0479	8.0000e-005		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	6.6385	6.6385	5.6000e-004	0.0000	6.6525
Total	**0.0853**	**0.0477**	**0.0479**	**8.0000e-005**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**6.6385**	**6.6385**	**5.6000e-004**	**0.0000**	**6.6525**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	9.4000e-004	9.1300e-003	3.0000e-005	4.6700e-003	2.0000e-005	4.6900e-003	1.2000e-003	2.0000e-005	1.2100e-003	0.0000	2.3353	2.3353	8.0000e-005	0.0000	2.3372
Total	**1.2300e-003**	**9.4000e-004**	**9.1300e-003**	**3.0000e-005**	**4.6700e-003**	**2.0000e-005**	**4.6900e-003**	**1.2000e-003**	**2.0000e-005**	**1.2100e-003**	**0.0000**	**2.3353**	**2.3353**	**8.0000e-005**	**0.0000**	**2.3372**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4286	5.0958	11.0771	0.0256	1.1825	0.0279	1.2103	0.3319	0.0261	0.3580	0.0000	2,362.5600	2,362.5600	0.1707	0.0000	2,366.8286
Unmitigated	1.5084	5.6157	12.7907	0.0325	1.5667	0.0345	1.6012	0.4397	0.0323	0.4720	0.0000	2,994.3552	2,994.3552	0.1999	0.0000	2,999.3530

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	900.00	900.00	900.00	896,567	676,679
Convenience Market (24 Hour)	240.00	240.00	240.00	182,778	137,951
Fast Food Restaurant with Drive Thru	780.00	780.00	780.00	728,774	550,038
Fast Food Restaurant with Drive Thru	1,170.00	1,170.00	1170.00	1,093,160	825,057
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	307.20	307.20	307.20	356,433	269,016
Parking Lot	0.00	0.00	0.00		
Strip Mall	68.40	68.40	68.40	105,338	79,503
Strip Mall	86.40	86.40	86.40	133,059	100,425
Strip Mall	162.00	162.00	162.00	249,485	188,298
Total	3,714.00	3,714.00	3,714.00	3,745,596	2,826,968

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Convenience Market (24 Hour)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Gasoline/Service Station	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
High Turnover (Sit Down Restaurant)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	165.2544	165.2544	6.6500e-003	1.3800e-003	165.8308
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	165.2544	165.2544	6.6500e-003	1.3800e-003	165.8308
NaturalGas Mitigated	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003	0.0000	74.0866	74.0866	1.4200e-003	1.3600e-003	74.5268
NaturalGas Unmitigated	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003	0.0000	74.0866	74.0866	1.4200e-003	1.3600e-003	74.5268

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	52020	2.8000e-004	2.5500e-003	2.1400e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7760	2.7760	5.0000e-005	5.0000e-005	2.7925
Convenience Market (24 Hour)	6690	4.0000e-005	3.3000e-004	2.8000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.3570	0.3570	1.0000e-005	1.0000e-005	0.3591
Fast Food Restaurant with Drive Thru	348760	1.8800e-003	0.0171	0.0144	1.0000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	18.6112	18.6112	3.6000e-004	3.4000e-004	18.7218
Fast Food Restaurant with Drive Thru	523140	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9167	27.9167	5.4000e-004	5.1000e-004	28.0826
Gasoline/Service Station	19583.8	1.1000e-004	9.6000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0451	1.0451	2.0000e-005	2.0000e-005	1.0513
High Turnover (Sit Down Restaurant)	418512	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.3334	22.3334	4.3000e-004	4.1000e-004	22.4661
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	10035	5.0000e-005	4.9000e-004	4.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5355	0.5355	1.0000e-005	1.0000e-005	0.5387
Strip Mall	4237	2.0000e-005	2.1000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2261	0.2261	0.0000	0.0000	0.2275
Strip Mall	5352	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	1.0000e-005	0.2873
Total		**7.4900e-003**	**0.0681**	**0.0572**	**4.0000e-004**		**5.1700e-003**	**5.1700e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**74.0866**	**74.0866**	**1.4300e-003**	**1.3600e-003**	**74.5268**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	52020	2.8000e-004	2.5500e-003	2.1400e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7760	2.7760	5.0000e-005	5.0000e-005	2.7925
Convenience Market (24 Hour)	6690	4.0000e-005	3.3000e-004	2.8000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.3570	0.3570	1.0000e-005	1.0000e-005	0.3591
Fast Food Restaurant with Drive Thru	348760	1.8800e-003	0.0171	0.0144	1.0000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	18.6112	18.6112	3.6000e-004	3.4000e-004	18.7218
Fast Food Restaurant with Drive Thru	523140	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9167	27.9167	5.4000e-004	5.1000e-004	28.0826
Gasoline/Service Station	19583.8	1.1000e-004	9.6000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0451	1.0451	2.0000e-005	2.0000e-005	1.0513
High Turnover (Sit Down Restaurant)	418512	2.2600e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.3334	22.3334	4.3000e-004	4.1000e-004	22.4661
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	10035	5.0000e-005	4.9000e-004	4.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5355	0.5355	1.0000e-005	1.0000e-005	0.5387
Strip Mall	4237	2.0000e-005	2.1000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2261	0.2261	0.0000	0.0000	0.2275
Strip Mall	5352	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	1.0000e-005	0.2873
Total		**7.4900e-003**	**0.0681**	**0.0572**	**4.0000e-004**		**5.1700e-003**	**5.1700e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**74.0866**	**74.0866**	**1.4300e-003**	**1.3600e-003**	**74.5268**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	37395	12.2210	4.9000e-004	1.0000e-004	12.2636
Convenience Market (24 Hour)	37680	12.3142	5.0000e-004	1.0000e-004	12.3571
Fast Food Restaurant with Drive Thru	116100	37.9425	1.5300e-003	3.2000e-004	38.0748
Fast Food Restaurant with Drive Thru	77400	25.2950	1.0200e-003	2.1000e-004	25.3832
Gasoline/Service Station	14078	4.6008	1.9000e-004	4.0000e-005	4.6169
High Turnover (Sit Down Restaurant)	92880	30.3540	1.2200e-003	2.5000e-004	30.4599
Parking Lot	19600	6.4055	2.6000e-004	5.0000e-005	6.4278
Strip Mall	23864	7.7990	3.1000e-004	6.0000e-005	7.8262
Strip Mall	30144	9.8513	4.0000e-004	8.0000e-005	9.8857
Strip Mall	56520	18.4712	7.4000e-004	1.5000e-004	18.5357
Total		**165.2544**	**6.6600e-003**	**1.3600e-003**	**165.8308**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	37395	12.2210	4.9000e-004	1.0000e-004	12.2636
Convenience Market (24 Hour)	37680	12.3142	5.0000e-004	1.0000e-004	12.3571
Fast Food Restaurant with Drive Thru	116100	37.9425	1.5300e-003	3.2000e-004	38.0748
Fast Food Restaurant with Drive Thru	77400	25.2950	1.0200e-003	2.1000e-004	25.3832
Gasoline/Service Station	14078	4.6008	1.9000e-004	4.0000e-005	4.6169
High Turnover (Sit Down Restaurant)	92880	30.3540	1.2200e-003	2.5000e-004	30.4599
Parking Lot	19600	6.4055	2.6000e-004	5.0000e-005	6.4278
Strip Mall	23864	7.7990	3.1000e-004	6.0000e-005	7.8262
Strip Mall	30144	9.8513	4.0000e-004	8.0000e-005	9.8857
Strip Mall	56520	18.4712	7.4000e-004	1.5000e-004	18.5357
Total		**165.2544**	**6.6600e-003**	**1.3600e-003**	**165.8308**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1108	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003
Unmitigated	0.1343	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1028					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003
Total	**0.1343**	**2.0000e-005**	**1.6200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.1400e-003**	**3.1400e-003**	**1.0000e-005**	**0.0000**	**3.3500e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.8300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1028					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	2.0000e-005	1.6200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1400e-003	3.1400e-003	1.0000e-005	0.0000	3.3500e-003
Total	**0.1108**	**2.0000e-005**	**1.6200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.1400e-003**	**3.1400e-003**	**1.0000e-005**	**0.0000**	**3.3500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.6112	0.1162	2.8800e-003	23.3749
Unmitigated	19.6112	0.1162	2.8800e-003	23.3749

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.423365 / 0.259482	2.8780	0.0139	3.5000e-004	3.3296
Convenience Market (24 Hour)	0.222218 / 0.136198	1.5106	7.3000e-003	1.8000e-004	1.7476
Fast Food Restaurant with Drive Thru	1.51767 / 0.0968725	7.2915	0.0497	1.2200e-003	8.8995
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0.728481 / 0.0464988	3.4999	0.0239	5.9000e-004	4.2718
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.651838 / 0.399514	4.4312	0.0214	5.4000e-004	5.1264
Total		**19.6112**	**0.1162**	**2.8800e-003**	**23.3749**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.423365 / 0.259482	2.8780	0.0139	3.5000e-004	3.3296
Convenience Market (24 Hour)	0.222218 / 0.136198	1.5106	7.3000e-003	1.8000e-004	1.7476
Fast Food Restaurant with Drive Thru	1.51767 / 0.0968725	7.2915	0.0497	1.2200e-003	8.8995
Gasoline/Service Station	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0.728481 / 0.0464988	3.4999	0.0239	5.9000e-004	4.2718
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.651838 / 0.399514	4.4312	0.0214	5.4000e-004	5.1264
Total		**19.6112**	**0.1162**	**2.8800e-003**	**23.3749**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	24.6837	1.4588	0.0000	61.1528
Unmitigated	24.6837	1.4588	0.0000	61.1528

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	17.19	3.4894	0.2062	0.0000	8.6449
Convenience Market (24 Hour)	9.02	1.8310	0.1082	0.0000	4.5362
Fast Food Restaurant with Drive Thru	57.59	11.6903	0.6909	0.0000	28.9621
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	28.56	5.7974	0.3426	0.0000	14.3629
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.24	1.8756	0.1109	0.0000	4.6468
Total		**24.6837**	**1.4588**	**0.0000**	**61.1528**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	17.19	3.4894	0.2062	0.0000	8.6449
Convenience Market (24 Hour)	9.02	1.8310	0.1082	0.0000	4.5362
Fast Food Restaurant with Drive Thru	57.59	11.6903	0.6909	0.0000	28.9621
Gasoline/Service Station	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	28.56	5.7974	0.3426	0.0000	14.3629
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.24	1.8756	0.1109	0.0000	4.6468
Total		**24.6837**	**1.4588**	**0.0000**	**61.1528**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

OnPoint Oceanside

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	140.00	Space	1.26	56,000.00	0
Fast Food Restaurant with Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	0.07	3,000.00	0
High Turnover (Sit Down Restaurant)	2.40	1000sqft	0.06	2,400.00	0
Automobile Care Center	4.50	1000sqft	0.10	4,500.00	0
Convenience Market (24 Hour)	3.00	1000sqft	0.07	3,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
Strip Mall	1.90	1000sqft	0.04	1,900.00	0
Strip Mall	2.40	1000sqft	0.06	2,400.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

OnPoint Oceanside - San Diego County, Summer

Project Characteristics - Jan '19 - Dec '19

Land Use - .

Construction Phase - Client-provided construction schedule.

Off-road Equipment -

Grading - 20k cubic yards of imported fill material.

Vehicle Trips - Adjusted per TIA

Energy Use -

Water And Wastewater - Gas Station is captured in the 3,000-sqft convenience market.

Solid Waste - Gas Station is captured in the 3,000-sqft convenience market.

Area Mitigation - SDAPCD Rule 67.0.1

Architectural Coating - SDAPCD Rule 67.0.1

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	10.00	52.00
tblConstructionPhase	NumDays	200.00	106.00
tblConstructionPhase	NumDays	4.00	56.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	11/8/2019	8/21/2019

tblConstructionPhase	PhaseEndDate	10/11/2019	8/14/2019
tblConstructionPhase	PhaseEndDate	1/4/2019	3/19/2019
tblConstructionPhase	PhaseEndDate	10/25/2019	4/17/2019
tblConstructionPhase	PhaseStartDate	10/26/2019	6/11/2019
tblConstructionPhase	PhaseStartDate	1/5/2019	3/20/2019
tblConstructionPhase	PhaseStartDate	10/12/2019	3/21/2019
tblGrading	AcresOfGrading	21.00	1.50
tblGrading	MaterialImported	0.00	20,000.00
tblSolidWaste	SolidWasteGenerationRate	6.47	0.00
tblVehicleTrips	ST_TR	23.72	200.00
tblVehicleTrips	ST_TR	863.10	80.00
tblVehicleTrips	ST_TR	722.03	390.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	128.00
tblVehicleTrips	ST_TR	42.04	36.00
tblVehicleTrips	SU_TR	11.88	200.00
tblVehicleTrips	SU_TR	758.45	80.00
tblVehicleTrips	SU_TR	542.72	390.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	128.00
tblVehicleTrips	SU_TR	20.43	36.00
tblVehicleTrips	WD_TR	23.72	200.00
tblVehicleTrips	WD_TR	737.99	80.00
tblVehicleTrips	WD_TR	496.12	390.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	128.00
tblVehicleTrips	WD_TR	44.32	36.00

tblWater	IndoorWaterUseRate	159,382.67	0.00
tblWater	OutdoorWaterUseRate	97,686.15	0.00

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					
2019	5.7834	26.8896	24.1981	0.0431	5.2279	1.4522	6.0049	2.6723	1.3792	3.3886	0.0000	4,522.9801	4,522.9801	0.8413	0.0000	4,540.8440
Maximum	**5.7834**	**26.8896**	**24.1981**	**0.0431**	**5.2279**	**1.4522**	**6.0049**	**2.6723**	**1.3792**	**3.3886**	**0.0000**	**4,522.9801**	**4,522.9801**	**0.8413**	**0.0000**	**4,540.8440**

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					
2019	5.7834	26.8896	24.1981	0.0431	5.2279	1.4522	6.0049	2.6723	1.3792	3.3886	0.0000	4,522.9801	4,522.9801	0.8413	0.0000	4,540.8440
Maximum	**5.7834**	**26.8896**	**24.1981**	**0.0431**	**5.2279**	**1.4522**	**6.0049**	**2.6723**	**1.3792**	**3.3886**	**0.0000**	**4,522.9801**	**4,522.9801**	**0.8413**	**0.0000**	**4,540.8440**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7369	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Energy	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
Mobile	8.8421	30.2937	68.4657	0.1864	8.7947	0.1886	8.9833	2.4617	0.1767	2.6384		18,938.6539	18,938.6539	1.1935		18,968.4906
Total	**9.6200**	**30.6667**	**68.7970**	**0.1886**	**8.7947**	**0.2170**	**9.0117**	**2.4617**	**0.2051**	**2.6668**		**19,386.1798**	**19,386.1798**	**1.2022**	**8.2000e-003**	**19,418.6783**

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	0.6079	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Energy	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
Mobile	8.3956	27.5922	58.2624	0.1469	6.6378	0.1520	6.7898	1.8579	0.1423	2.0003		14,938.5190	14,938.5190	1.0118		14,963.8138
Total	**9.0445**	**27.9653**	**58.5937**	**0.1491**	**6.6378**	**0.1804**	**6.8182**	**1.8579**	**0.1707**	**2.0287**		**15,386.0449**	**15,386.0449**	**1.0205**	**8.2000e-003**	**15,414.0015**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.98**	**8.81**	**14.83**	**20.93**	**24.53**	**16.87**	**24.34**	**24.53**	**16.76**	**23.93**	**0.00**	**20.63**	**20.63**	**15.11**	**0.00**	**20.62**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	3/19/2019	5	56	
2	Building Construction	Building Construction	3/20/2019	8/14/2019	5	106	
3	Paving	Paving	3/21/2019	4/17/2019	5	20	
4	Architectural Coating	Architectural Coating	6/11/2019	8/21/2019	5	52	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 38,091; Non-Residential Outdoor: 12,697; Striped Parking Area: 3,360 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	8.00	0.00	1,978.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	32.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5450	0.0000	4.5450	2.4857	0.0000	2.4857			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775		1,396.3909	1,396.3909	0.4418		1,407.4359
Total	**1.4197**	**16.0357**	**6.6065**	**0.0141**	**4.5450**	**0.7365**	**5.2814**	**2.4857**	**0.6775**	**3.1633**		**1,396.3909**	**1,396.3909**	**0.4418**		**1,407.4359**

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	0.3066	10.6096	2.2902	0.0280	0.6172	0.0400	0.6572	0.1692	0.0383	0.2075		3,056.9733	3,056.9733	0.2705		3,063.7365
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	0.0314	0.0219	0.2475	7.0000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		69.6160	69.6160	2.2200e-003		69.6716
Total	**0.3380**	**10.6315**	**2.5378**	**0.0287**	**0.6829**	**0.0405**	**0.7234**	**0.1866**	**0.0387**	**0.2253**		**3,126.5892**	**3,126.5892**	**0.2728**		**3,133.4080**

3.2 Grading - 2019

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					4.5450	0.0000	4.5450	2.4857	0.0000	2.4857			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775	0.0000	1,396.3909	1,396.3909	0.4418		1,407.4359
Total	**1.4197**	**16.0357**	**6.6065**	**0.0141**	**4.5450**	**0.7365**	**5.2814**	**2.4857**	**0.6775**	**3.1633**	**0.0000**	**1,396.3909**	**1,396.3909**	**0.4418**		**1,407.4359**

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	0.3066	10.6096	2.2902	0.0280	0.6172	0.0400	0.6572	0.1692	0.0383	0.2075		3,056.9733	3,056.9733	0.2705		3,063.7365
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	0.0314	0.0219	0.2475	7.0000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		69.6160	69.6160	2.2200e-003		69.6716
Total	**0.3380**	**10.6315**	**2.5378**	**0.0287**	**0.6829**	**0.0405**	**0.7234**	**0.1866**	**0.0387**	**0.2253**		**3,126.5892**	**3,126.5892**	**0.2728**		**3,133.4080**

3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846		2,018.0224	2,018.0224	0.3879		2,027.7210
Total	**2.2721**	**15.9802**	**13.4870**	**0.0220**		**0.9158**	**0.9158**		**0.8846**	**0.8846**		**2,018.0224**	**2,018.0224**	**0.3879**		**2,027.7210**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.6118	0.4161	3.5900e-003	0.0880	0.0112	0.0992	0.0253	0.0107	0.0361		384.8216	384.8216	0.0297		385.5644
Worker	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862
Total	**0.1855**	**1.6995**	**1.4063**	**6.3900e-003**	**0.3509**	**0.0131**	**0.3640**	**0.0951**	**0.0125**	**0.1075**		**663.2855**	**663.2855**	**0.0386**		**664.2506**

3.3 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846	0.0000	2,018.0224	2,018.0224	0.3879		2,027.7210
Total	**2.2721**	**15.9802**	**13.4870**	**0.0220**		**0.9158**	**0.9158**		**0.8846**	**0.8846**	**0.0000**	**2,018.0224**	**2,018.0224**	**0.3879**		**2,027.7210**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0598	1.6118	0.4161	3.5900e-003	0.0880	0.0112	0.0992	0.0253	0.0107	0.0361		384.8216	384.8216	0.0297		385.5644
Worker	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862
Total	**0.1855**	**1.6995**	**1.4063**	**6.3900e-003**	**0.3509**	**0.0131**	**0.3640**	**0.0951**	**0.0125**	**0.1075**		**663.2855**	**663.2855**	**0.0386**		**664.2506**

3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9038	9.1743	8.9025	0.0135		0.5225	0.5225		0.4815	0.4815		1,325.0953	1,325.0953	0.4112		1,335.3751
Paving	0.1651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0689**	**9.1743**	**8.9025**	**0.0135**		**0.5225**	**0.5225**		**0.4815**	**0.4815**		**1,325.0953**	**1,325.0953**	**0.4112**		**1,335.3751**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0510	0.0356	0.4022	1.1400e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		113.1260	113.1260	3.6100e-003		113.2163
Total	**0.0510**	**0.0356**	**0.4022**	**1.1400e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**113.1260**	**113.1260**	**3.6100e-003**		**113.2163**

3.4 Paving - 2019

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	0.9038	9.1743	8.9025	0.0135		0.5225	0.5225		0.4815	0.4815	0.0000	1,325.0953	1,325.0953	0.4112		1,335.3751
Paving	0.1651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0689**	**9.1743**	**8.9025**	**0.0135**		**0.5225**	**0.5225**		**0.4815**	**0.4815**	**0.0000**	**1,325.0953**	**1,325.0953**	**0.4112**		**1,335.3751**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0510	0.0356	0.4022	1.1400e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		113.1260	113.1260	3.6100e-003		113.2163
Total	**0.0510**	**0.0356**	**0.4022**	**1.1400e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**113.1260**	**113.1260**	**3.6100e-003**		**113.2163**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.0122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**3.2787**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.1843	7.0000e-004	0.1850	0.0472	6.5000e-004	0.0478		104.4240	104.4240	3.3300e-003		104.5073
Total	**0.0471**	**0.0329**	**0.3713**	**1.0500e-003**	**0.1843**	**7.0000e-004**	**0.1850**	**0.0472**	**6.5000e-004**	**0.0478**		**104.4240**	**104.4240**	**3.3300e-003**		**104.5073**

3.5 Architectural Coating - 2019

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	3.0122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**3.2787**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.1843	7.0000e-004	0.1850	0.0472	6.5000e-004	0.0478		104.4240	104.4240	3.3300e-003		104.5073
Total	**0.0471**	**0.0329**	**0.3713**	**1.0500e-003**	**0.1843**	**7.0000e-004**	**0.1850**	**0.0472**	**6.5000e-004**	**0.0478**		**104.4240**	**104.4240**	**3.3300e-003**		**104.5073**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3956	27.5922	58.2624	0.1469	6.6378	0.1520	6.7898	1.8579	0.1423	2.0003		14,938.5190	14,938.5190	1.0118		14,963.8138
Unmitigated	8.8421	30.2937	68.4657	0.1864	8.7947	0.1886	8.9833	2.4617	0.1767	2.6384		18,938.6539	18,938.6539	1.1935		18,968.4906

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	900.00	900.00	900.00	896,567	676,679
Convenience Market (24 Hour)	240.00	240.00	240.00	182,778	137,951
Fast Food Restaurant with Drive Thru	780.00	780.00	780.00	728,774	550,038
Fast Food Restaurant with Drive Thru	1,170.00	1,170.00	1170.00	1,093,160	825,057
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	307.20	307.20	307.20	356,433	269,016
Parking Lot	0.00	0.00	0.00		
Strip Mall	68.40	68.40	68.40	105,338	79,503
Strip Mall	86.40	86.40	86.40	133,059	100,425
Strip Mall	162.00	162.00	162.00	249,485	188,298
Total	3,714.00	3,714.00	3,714.00	3,745,596	2,826,968

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Convenience Market (24 Hour)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Gasoline/Service Station	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
High Turnover (Sit Down Restaurant)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
NaturalGas Unmitigated	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466

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					
Automobile Care Center	142.521	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		16.7671	16.7671	3.2000e-004	3.1000e-004	16.8668
Convenience Market (24 Hour)	18.3288	2.0000e-004	1.8000e-003	1.5100e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		2.1563	2.1563	4.0000e-005	4.0000e-005	2.1691
Fast Food Restaurant with Drive Thru	1433.26	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.6189	168.6189	3.2300e-003	3.0900e-003	169.6209
Fast Food Restaurant with Drive Thru	955.507	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003		112.4126	112.4126	2.1500e-003	2.0600e-003	113.0806
Gasoline/Service Station	53.6542	5.8000e-004	5.2600e-003	4.4200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3123	6.3123	1.2000e-004	1.2000e-004	6.3498
High Turnover (Sit Down Restaurant)	1146.61	0.0124	0.1124	0.0944	6.7000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003		134.8951	134.8951	2.5900e-003	2.4700e-003	135.6967
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
Strip Mall	11.6082	1.3000e-004	1.1400e-003	9.6000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3657	1.3657	3.0000e-005	3.0000e-005	1.3738
Strip Mall	14.663	1.6000e-004	1.4400e-003	1.2100e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.7251	1.7251	3.0000e-005	3.0000e-005	1.7353
Strip Mall	27.4932	3.0000e-004	2.7000e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2345	3.2345	6.0000e-005	6.0000e-005	3.2537
Total		**0.0410**	**0.3729**	**0.3133**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**447.4874**	**447.4874**	**8.5700e-003**	**8.2100e-003**	**450.1466**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0.142521	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		16.7671	16.7671	3.2000e-004	3.1000e-004	16.8668
Convenience Market (24 Hour)	0.0183288	2.0000e-004	1.8000e-003	1.5100e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		2.1563	2.1563	4.0000e-005	4.0000e-005	2.1691
Fast Food Restaurant with Drive Thru	0.955507	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003		112.4126	112.4126	2.1500e-003	2.0600e-003	113.0806
Fast Food Restaurant with Drive Thru	1.43326	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.6189	168.6189	3.2300e-003	3.0900e-003	169.6209
Gasoline/Service Station	0.0536542	5.8000e-004	5.2600e-003	4.4200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3123	6.3123	1.2000e-004	1.2000e-004	6.3498
High Turnover (Sit Down Restaurant)	1.14661	0.0124	0.1124	0.0944	6.7000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003		134.8951	134.8951	2.5900e-003	2.4700e-003	135.6967
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
Strip Mall	0.0116082	1.3000e-004	1.1400e-003	9.6000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3657	1.3657	3.0000e-005	3.0000e-005	1.3738
Strip Mall	0.014663	1.6000e-004	1.4400e-003	1.2100e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.7251	1.7251	3.0000e-005	3.0000e-005	1.7353
Strip Mall	0.0274932	3.0000e-004	2.7000e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2345	3.2345	6.0000e-005	6.0000e-005	3.2537
Total		**0.0410**	**0.3729**	**0.3133**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**447.4874**	**447.4874**	**8.5700e-003**	**8.2100e-003**	**450.1466**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	0.6079	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Unmitigated	0.7369	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410

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	0.1719					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-003	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Total	**0.7369**	**1.7000e-004**	**0.0181**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0385**	**0.0385**	**1.0000e-004**		**0.0410**

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	0.0429					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-003	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Total	**0.6079**	**1.7000e-004**	**0.0181**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0385**	**0.0385**	**1.0000e-004**		**0.0410**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

OnPoint Oceanside

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	140.00	Space	1.26	56,000.00	0
Fast Food Restaurant with Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	0.07	3,000.00	0
High Turnover (Sit Down Restaurant)	2.40	1000sqft	0.06	2,400.00	0
Automobile Care Center	4.50	1000sqft	0.10	4,500.00	0
Convenience Market (24 Hour)	3.00	1000sqft	0.07	3,000.00	0
Gasoline/Service Station	12.00	Pump	0.04	1,694.10	0
Strip Mall	1.90	1000sqft	0.04	1,900.00	0
Strip Mall	2.40	1000sqft	0.06	2,400.00	0
Strip Mall	4.50	1000sqft	0.10	4,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/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 - Jan '19 - Dec '19

Land Use - .

Construction Phase - Client-provided construction schedule.

Off-road Equipment -

Grading - 20k cubic yards of imported fill material.

Vehicle Trips - Adjusted per TIA

Energy Use -

Water And Wastewater - Gas Station is captured in the 3,000-sqft convenience market.

Solid Waste - Gas Station is captured in the 3,000-sqft convenience market.

Area Mitigation - SDAPCD Rule 67.0.1

Architectural Coating - SDAPCD Rule 67.0.1

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstructionPhase	NumDays	10.00	52.00
tblConstructionPhase	NumDays	200.00	106.00
tblConstructionPhase	NumDays	4.00	56.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	11/8/2019	8/21/2019

tblConstructionPhase	PhaseEndDate	10/11/2019	8/14/2019
tblConstructionPhase	PhaseEndDate	1/4/2019	3/19/2019
tblConstructionPhase	PhaseEndDate	10/25/2019	4/17/2019
tblConstructionPhase	PhaseStartDate	10/26/2019	6/11/2019
tblConstructionPhase	PhaseStartDate	1/5/2019	3/20/2019
tblConstructionPhase	PhaseStartDate	10/12/2019	3/21/2019
tblGrading	AcresOfGrading	21.00	1.50
tblGrading	MaterialImported	0.00	20,000.00
tblSolidWaste	SolidWasteGenerationRate	6.47	0.00
tblVehicleTrips	ST_TR	23.72	200.00
tblVehicleTrips	ST_TR	863.10	80.00
tblVehicleTrips	ST_TR	722.03	390.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	128.00
tblVehicleTrips	ST_TR	42.04	36.00
tblVehicleTrips	SU_TR	11.88	200.00
tblVehicleTrips	SU_TR	758.45	80.00
tblVehicleTrips	SU_TR	542.72	390.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	128.00
tblVehicleTrips	SU_TR	20.43	36.00
tblVehicleTrips	WD_TR	23.72	200.00
tblVehicleTrips	WD_TR	737.99	80.00
tblVehicleTrips	WD_TR	496.12	390.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	128.00
tblVehicleTrips	WD_TR	44.32	36.00

tblWater	IndoorWaterUseRate	159,382.67	0.00
tblWater	OutdoorWaterUseRate	97,686.15	0.00

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					
2019	5.8086	26.9061	24.1667	0.0428	5.2279	1.4524	6.0058	2.6723	1.3794	3.3895	0.0000	4,467.2755	4,467.2755	0.8426	0.0000	4,485.3814
Maximum	**5.8086**	**26.9061**	**24.1667**	**0.0428**	**5.2279**	**1.4524**	**6.0058**	**2.6723**	**1.3794**	**3.3895**	**0.0000**	**4,467.2755**	**4,467.2755**	**0.8426**	**0.0000**	**4,485.3814**

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					
2019	5.8086	26.9061	24.1667	0.0428	5.2279	1.4524	6.0058	2.6723	1.3794	3.3895	0.0000	4,467.2755	4,467.2755	0.8426	0.0000	4,485.3814
Maximum	**5.8086**	**26.9061**	**24.1667**	**0.0428**	**5.2279**	**1.4524**	**6.0058**	**2.6723**	**1.3794**	**3.3895**	**0.0000**	**4,467.2755**	**4,467.2755**	**0.8426**	**0.0000**	**4,485.3814**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7369	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Energy	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
Mobile	8.5790	30.6556	72.4273	0.1763	8.7947	0.1916	8.9863	2.4617	0.1795	2.6412		17,905.4595	17,905.4595	1.2397		17,936.4507
Total	**9.3569**	**31.0287**	**72.7586**	**0.1786**	**8.7947**	**0.2200**	**9.0147**	**2.4617**	**0.2079**	**2.6696**		**18,352.9854**	**18,352.9854**	**1.2483**	**8.2000e-003**	**18,386.6383**

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	0.6079	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Energy	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
Mobile	8.1408	27.7893	63.0925	0.1388	6.6378	0.1550	6.7927	1.8579	0.1452	2.0031		14,104.9086	14,104.9086	1.0636		14,131.4977
Total	**8.7897**	**28.1624**	**63.4237**	**0.1411**	**6.6378**	**0.1834**	**6.8211**	**1.8579**	**0.1736**	**2.0315**		**14,552.4345**	**14,552.4345**	**1.0722**	**8.2000e-003**	**14,581.6853**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.06**	**9.24**	**12.83**	**20.99**	**24.53**	**16.63**	**24.33**	**24.53**	**16.53**	**23.90**	**0.00**	**20.71**	**20.71**	**14.11**	**0.00**	**20.69**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	3/19/2019	5	56	
2	Building Construction	Building Construction	3/20/2019	8/14/2019	5	106	
3	Paving	Paving	3/21/2019	4/17/2019	5	20	
4	Architectural Coating	Architectural Coating	6/11/2019	8/21/2019	5	52	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 38,091; Non-Residential Outdoor: 12,697; Striped Parking Area: 3,360 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	8.00	0.00	1,978.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	32.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5450	0.0000	4.5450	2.4857	0.0000	2.4857			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775		1,396.3909	1,396.3909	0.4418		1,407.4359
Total	**1.4197**	**16.0357**	**6.6065**	**0.0141**	**4.5450**	**0.7365**	**5.2814**	**2.4857**	**0.6775**	**3.1633**		**1,396.3909**	**1,396.3909**	**0.4418**		**1,407.4359**

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	0.3152	10.7183	2.4544	0.0276	0.6172	0.0410	0.6582	0.1692	0.0392	0.2084		3,005.5316	3,005.5316	0.2803		3,012.5396
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	0.0355	0.0246	0.2339	6.6000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		65.3531	65.3531	2.1100e-003		65.4058
Total	**0.3508**	**10.7429**	**2.6883**	**0.0282**	**0.6829**	**0.0414**	**0.7244**	**0.1866**	**0.0396**	**0.2262**		**3,070.8847**	**3,070.8847**	**0.2824**		**3,077.9455**

3.2 Grading - 2019

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					4.5450	0.0000	4.5450	2.4857	0.0000	2.4857			0.0000			0.0000
Off-Road	1.4197	16.0357	6.6065	0.0141		0.7365	0.7365		0.6775	0.6775	0.0000	1,396.3909	1,396.3909	0.4418		1,407.4359
Total	**1.4197**	**16.0357**	**6.6065**	**0.0141**	**4.5450**	**0.7365**	**5.2814**	**2.4857**	**0.6775**	**3.1633**	**0.0000**	**1,396.3909**	**1,396.3909**	**0.4418**		**1,407.4359**

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	0.3152	10.7183	2.4544	0.0276	0.6172	0.0410	0.6582	0.1692	0.0392	0.2084		3,005.5316	3,005.5316	0.2803		3,012.5396
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	0.0355	0.0246	0.2339	6.6000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.3000e-004	0.0179		65.3531	65.3531	2.1100e-003		65.4058
Total	**0.3508**	**10.7429**	**2.6883**	**0.0282**	**0.6829**	**0.0414**	**0.7244**	**0.1866**	**0.0396**	**0.2262**		**3,070.8847**	**3,070.8847**	**0.2824**		**3,077.9455**

3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846		2,018.0224	2,018.0224	0.3879		2,027.7210
Total	**2.2721**	**15.9802**	**13.4870**	**0.0220**		**0.9158**	**0.9158**		**0.8846**	**0.8846**		**2,018.0224**	**2,018.0224**	**0.3879**		**2,027.7210**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0624	1.6131	0.4614	3.5000e-003	0.0880	0.0114	0.0994	0.0253	0.0109	0.0363		375.0503	375.0503	0.0316		375.8405
Worker	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233
Total	**0.2045**	**1.7116**	**1.3970**	**6.1200e-003**	**0.3509**	**0.0133**	**0.3642**	**0.0951**	**0.0127**	**0.1077**		**636.4627**	**636.4627**	**0.0400**		**637.4638**

3.3 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2721	15.9802	13.4870	0.0220		0.9158	0.9158		0.8846	0.8846	0.0000	2,018.0224	2,018.0224	0.3879		2,027.7210
Total	**2.2721**	**15.9802**	**13.4870**	**0.0220**		**0.9158**	**0.9158**		**0.8846**	**0.8846**	**0.0000**	**2,018.0224**	**2,018.0224**	**0.3879**		**2,027.7210**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0624	1.6131	0.4614	3.5000e-003	0.0880	0.0114	0.0994	0.0253	0.0109	0.0363		375.0503	375.0503	0.0316		375.8405
Worker	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233
Total	**0.2045**	**1.7116**	**1.3970**	**6.1200e-003**	**0.3509**	**0.0133**	**0.3642**	**0.0951**	**0.0127**	**0.1077**		**636.4627**	**636.4627**	**0.0400**		**637.4638**

3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9038	9.1743	8.9025	0.0135		0.5225	0.5225		0.4815	0.4815		1,325.0953	1,325.0953	0.4112		1,335.3751
Paving	0.1651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0689**	**9.1743**	**8.9025**	**0.0135**		**0.5225**	**0.5225**		**0.4815**	**0.4815**		**1,325.0953**	**1,325.0953**	**0.4112**		**1,335.3751**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0577	0.0400	0.3801	1.0700e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		106.1988	106.1988	3.4300e-003		106.2845
Total	**0.0577**	**0.0400**	**0.3801**	**1.0700e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**106.1988**	**106.1988**	**3.4300e-003**		**106.2845**

3.4 Paving - 2019

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	0.9038	9.1743	8.9025	0.0135		0.5225	0.5225		0.4815	0.4815	0.0000	1,325.0953	1,325.0953	0.4112		1,335.3751
Paving	0.1651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0689**	**9.1743**	**8.9025**	**0.0135**		**0.5225**	**0.5225**		**0.4815**	**0.4815**	**0.0000**	**1,325.0953**	**1,325.0953**	**0.4112**		**1,335.3751**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0577	0.0400	0.3801	1.0700e-003	0.1068	7.6000e-004	0.1076	0.0283	7.0000e-004	0.0290		106.1988	106.1988	3.4300e-003		106.2845
Total	**0.0577**	**0.0400**	**0.3801**	**1.0700e-003**	**0.1068**	**7.6000e-004**	**0.1076**	**0.0283**	**7.0000e-004**	**0.0290**		**106.1988**	**106.1988**	**3.4300e-003**		**106.2845**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.0122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**3.2787**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.1843	7.0000e-004	0.1850	0.0472	6.5000e-004	0.0478		98.0297	98.0297	3.1600e-003		98.1087
Total	**0.0533**	**0.0369**	**0.3509**	**9.8000e-004**	**0.1843**	**7.0000e-004**	**0.1850**	**0.0472**	**6.5000e-004**	**0.0478**		**98.0297**	**98.0297**	**3.1600e-003**		**98.1087**

3.5 Architectural Coating - 2019

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	3.0122					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**3.2787**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.1843	7.0000e-004	0.1850	0.0472	6.5000e-004	0.0478		98.0297	98.0297	3.1600e-003		98.1087
Total	**0.0533**	**0.0369**	**0.3509**	**9.8000e-004**	**0.1843**	**7.0000e-004**	**0.1850**	**0.0472**	**6.5000e-004**	**0.0478**		**98.0297**	**98.0297**	**3.1600e-003**		**98.1087**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.1408	27.7893	63.0925	0.1388	6.6378	0.1550	6.7927	1.8579	0.1452	2.0031		14,104.9086	14,104.9086	1.0636		14,131.4977
Unmitigated	8.5790	30.6556	72.4273	0.1763	8.7947	0.1916	8.9863	2.4617	0.1795	2.6412		17,905.4595	17,905.4595	1.2397		17,936.4507

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	900.00	900.00	900.00	896,567	676,679
Convenience Market (24 Hour)	240.00	240.00	240.00	182,778	137,951
Fast Food Restaurant with Drive Thru	780.00	780.00	780.00	728,774	550,038
Fast Food Restaurant with Drive Thru	1,170.00	1,170.00	1170.00	1,093,160	825,057
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	307.20	307.20	307.20	356,433	269,016
Parking Lot	0.00	0.00	0.00		
Strip Mall	68.40	68.40	68.40	105,338	79,503
Strip Mall	86.40	86.40	86.40	133,059	100,425
Strip Mall	162.00	162.00	162.00	249,485	188,298
Total	3,714.00	3,714.00	3,714.00	3,745,596	2,826,968

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Convenience Market (24 Hour)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Fast Food Restaurant with Drive Thru	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Gasoline/Service Station	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
High Turnover (Sit Down Restaurant)	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Strip Mall	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466
NaturalGas Unmitigated	0.0410	0.3729	0.3132	2.2400e-003		0.0283	0.0283		0.0283	0.0283		447.4874	447.4874	8.5800e-003	8.2000e-003	450.1466

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					
Automobile Care Center	142.521	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		16.7671	16.7671	3.2000e-004	3.1000e-004	16.8668
Convenience Market (24 Hour)	18.3288	2.0000e-004	1.8000e-003	1.5100e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		2.1563	2.1563	4.0000e-005	4.0000e-005	2.1691
Fast Food Restaurant with Drive Thru	1433.26	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.6189	168.6189	3.2300e-003	3.0900e-003	169.6209
Fast Food Restaurant with Drive Thru	955.507	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003		112.4126	112.4126	2.1500e-003	2.0600e-003	113.0806
Gasoline/Service Station	53.6542	5.8000e-004	5.2600e-003	4.4200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3123	6.3123	1.2000e-004	1.2000e-004	6.3498
High Turnover (Sit Down Restaurant)	1146.61	0.0124	0.1124	0.0944	6.7000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003		134.8951	134.8951	2.5900e-003	2.4700e-003	135.6967
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
Strip Mall	11.6082	1.3000e-004	1.1400e-003	9.6000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3657	1.3657	3.0000e-005	3.0000e-005	1.3738
Strip Mall	14.663	1.6000e-004	1.4400e-003	1.2100e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.7251	1.7251	3.0000e-005	3.0000e-005	1.7353
Strip Mall	27.4932	3.0000e-004	2.7000e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2345	3.2345	6.0000e-005	6.0000e-005	3.2537
Total		**0.0410**	**0.3729**	**0.3133**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**447.4874**	**447.4874**	**8.5700e-003**	**8.2100e-003**	**450.1466**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0.142521	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		16.7671	16.7671	3.2000e-004	3.1000e-004	16.8668
Convenience Market (24 Hour)	0.0183288	2.0000e-004	1.8000e-003	1.5100e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		2.1563	2.1563	4.0000e-005	4.0000e-005	2.1691
Fast Food Restaurant with Drive Thru	0.955507	0.0103	0.0937	0.0787	5.6000e-004		7.1200e-003	7.1200e-003		7.1200e-003	7.1200e-003		112.4126	112.4126	2.1500e-003	2.0600e-003	113.0806
Fast Food Restaurant with Drive Thru	1.43326	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.6189	168.6189	3.2300e-003	3.0900e-003	169.6209
Gasoline/Service Station	0.0536542	5.8000e-004	5.2600e-003	4.4200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004		6.3123	6.3123	1.2000e-004	1.2000e-004	6.3498
High Turnover (Sit Down Restaurant)	1.14661	0.0124	0.1124	0.0944	6.7000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003		134.8951	134.8951	2.5900e-003	2.4700e-003	135.6967
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
Strip Mall	0.0116082	1.3000e-004	1.1400e-003	9.6000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3657	1.3657	3.0000e-005	3.0000e-005	1.3738
Strip Mall	0.014663	1.6000e-004	1.4400e-003	1.2100e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.7251	1.7251	3.0000e-005	3.0000e-005	1.7353
Strip Mall	0.0274932	3.0000e-004	2.7000e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2345	3.2345	6.0000e-005	6.0000e-005	3.2537
Total		**0.0410**	**0.3729**	**0.3133**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**447.4874**	**447.4874**	**8.5700e-003**	**8.2100e-003**	**450.1466**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	0.6079	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Unmitigated	0.7369	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410

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	0.1719					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-003	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Total	**0.7369**	**1.7000e-004**	**0.0181**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0385**	**0.0385**	**1.0000e-004**		**0.0410**

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	0.0429					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-003	1.7000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0385	0.0385	1.0000e-004		0.0410
Total	**0.6079**	**1.7000e-004**	**0.0181**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0385**	**0.0385**	**1.0000e-004**		**0.0410**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Greenhouse Gas Emission Worksheet

N_2O Mobile Emissions

Oceanside East Shopping Center Project - NLA Oceanside, LLC

From CalEEMod v.2016.3.1 Vehicle Fleet Mix Output:

Annual VMT: 2,826,968

Vehicle Type	Percent Type	CH_4 Emission Factor (g/mile)*	CH_4 Emissions (g/mile)**	N_2O Emission Factor (g/mile)*	N_2O Emissions (g/mile)**
Light Auto	58.8%	0.04	0.02353264	0.04	0.02353264
Light Truck < 3750 lbs	4.3%	0.05	0.00214565	0.06	0.00257478
Light Truck 3751-5750 lbs	18.4%	0.05	0.00922245	0.06	0.01106694
Med Truck 5751-8500 lbs	11.1%	0.12	0.01329516	0.2	0.0221586
Lite-Heavy Truck 8501-10,000 lbs	1.7%	0.12	0.00207528	0.2	0.0034588
Lite-Heavy Truck 10,001-14,000 lbs	0.6%	0.09	0.00050022	0.125	0.00069475
Med-Heavy Truck 14,001-33,000 lbs	1.6%	0.06	0.00093204	0.05	0.0007767
Heavy-Heavy Truck 33,001-60,000 lbs	2.3%	0.06	0.00138126	0.05	0.00115105
Other Bus	0.2%	0.06	0.00011412	0.05	0.0000951
Urban Bus	0.2%	0.06	0.00012	0.05	0.0001
Motorcycle	0.6%	0.09	0.00054	0.01	0.00006
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.1%	0.09	0.00009	0.125	0.000125
Total	**100.0%**		**0.05400882**		**0.06584436**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO_2e) Units based on Global Warming Potential (GWP)

CH_4	21	GWP
N_2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N_2O Emissions:	0.1861	metric tons N_2O	**57.70**	metric tons CO_2e
		Project Total:	***57.70***	***metric tons CO_2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** CalEEMod v.2016.3.1 results for mobile sources.