AIR QUALITY AND GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

CHEVRON CONVENIENCE STORE & SERVICE STATION PROJECT

TOWN OF BLOOMINGTON

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ACRONYMS AND ABBREVIATIONS

Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	Environmental Protection Agency
°F	Fahrenheit
GHG	Greenhouse gas
GWP	Global warming potential
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LST	Localized Significant Thresholds
MSAT	Mobile Source Air Toxics
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO_x	Nitrogen oxides
NO_2	Nitrogen dioxide
O_3	Ozone
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PPM	Parts per million
PPB	Parts per billion

PPT	Parts per trillion
RTIP	Regional Transportation Improvement Plan
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_x	Sulfur oxides
TAC	Toxic air contaminants
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile organic compounds

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Air Quality and Greenhouse Gas Emissions Impact Analysis has been completed to determine the air quality and greenhouse gas (GHG) emissions impacts associated with the proposed Chevron Convenience Store and Service Station project (proposed project). The following is provided in this report:

- A description of the proposed project;
- A description of the atmospheric setting;
- A description of the criteria pollutants and GHGs;
- A description of the air quality regulatory framework;
- A description of the air quality and GHG emissions thresholds including the California Environmental Quality Act (CEQA) significance thresholds;
- An analysis of the short-term construction related and long-term operational air quality and GHG emissions impacts;
- An analysis of the conformity of the proposed project with the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP); and
- An analysis of the conformity of the proposed project with all applicable GHG emissions reduction plans and policies.

The *Chevron Convenience Store & Service Station Project Health Risk Assessment* (HRA), prepared by Vista Environmental, March 2017, was prepared in conjunction with this analysis.

1.2 Site Location and Study Area

The project site is located at 10598 Cedar Avenue in the town of Bloomington which is an unincorporated portion of San Bernardino County (County). The approximately 4.39-acre project site is currently developed with an approximately 6,300 square foot commercial building and associated parking lot, a 1,920 square foot residential building, and a 750 square foot residential building on the northern 1.89 acres of the project site. The project site is bounded by Slover Avenue and commercial uses to the north, Cedar Avenue and single-family homes to the east, vacant land and commercial uses to the south, and single-family homes and Valencia Street to the west. The project local study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest offsite sensitive receptors to the project site consist of single-family homes located as near as 10 feet west of the project site. The nearest school to the project site is Bloomington Junior High School/Slover Mountain High School, whose nearest structure is located as near as 450 feet northeast of the project site.

1.3 Proposed Project Description

The proposed project would consist of the development of a 13-vehicle fueling position gas station with two canopies that total 4,052 square feet, a 5,812 square foot convenience market with a quick serve restaurant (QSR) and a 49-space parking lot located on the northern 1.89 acres of the project site. The remainder portion of the project site (approximately 2.46 acres) would not be developed as part of the proposed project. The proposed site plan is shown in Figure 2.

1.4 Standard Air Quality and GHG Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the SCAQMD and State of California (State).

South Coast Air Quality Management District Rules

The following lists the SCAQMD rules that are applicable to all mixed-use projects in the South Coast Air Basin (Air Basin).

Rule 402 - Nuisance

Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Compliance with Rule 402 will reduce local air quality and odor impacts to nearby sensitive receptors.

Rule 403- Fugitive Dust

Rule 403 governs emissions of fugitive dust during construction activities and requires that no person shall cause or allow the emissions of fugitive dust such that dust remains visible in the atmosphere beyond the property line or the dust emission exceeds 20 percent opacity, if the dust is from the operation of a motorized vehicle. Compliance with this rule is achieved through application of standard Best Available Control Measures, which include but are not limited to the measures below. Compliance with these rules would reduce local air quality impacts to nearby sensitive receptors.

- Utilize either a pad of washed gravel 50 feet long, 100 feet of paved surface, a wheel shaker, or a wheel washing device to remove material from vehicle tires and undercarriages before leaving project site.
- Do not allow any track out of material to extend more than 25 feet onto a public roadway and remove all track out at the end of each workday.
- Water all exposed areas on active sites at least three times per day and pre-water all areas prior to clearing and soil moving activities.
- Apply nontoxic chemical stabilizers according to manufacturer specifications to all construction areas that will remain inactive for 10 days or longer.
- Pre-water all material to be exported prior to loading, and either cover all loads or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114.
- Replant all disturbed area as soon as practical.
- Suspend all grading activities when wind speeds (including wind gusts) exceed 25 miles per hour.
- Restrict traffic speeds on all unpaved roads to 15 miles per hour or less.

Rule 461- Gasoline Dispensing Facilities

Rule 461 governs the operation of gasoline stations and requires that all underground storage tanks are equipped with a "CARB certified" enhanced vapor recovery system, all fill tubes are equipped with vapor tight caps, all dry breaks are equipped with vapor tight seals, a spill box shall be installed to capture any gasoline spillage, and all equipment is required to be properly maintained per CARB regulations. All

gasoline dispensing units are required to be equipped with a "CARB certified" vapor recovery system, the dispensing system components shall maintain vapor and liquid tight connections at all times and the breakaway coupling shall be equipped with a poppet valve that shall close when coupling is separated. Rule 461 also provides several additional requirements including detailed maintenance, testing, reporting and recordkeeping requirements for all gas stations.

Rules 1108 and 1108.1 – Cutback and Emulsified Asphalt

Rules 1108 and 1108.1 govern the sale, use, and manufacturing of asphalt and limits the VOC content in asphalt. This rule regulates the VOC contents of asphalt used during construction as well as any on-going maintenance during operations. Therefore, all asphalt used during construction and operation of the proposed project must comply with SCAQMD Rules 1108 and 1108.1.

Rule 1113 – Architectural Coatings

Rule 1113 governs the sale, use, and manufacturing of architectural coatings and limits the VOC content in sealers, coatings, paints and solvents. This rule regulates the VOC contents of paints available during construction. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Rule 1143 – Paint Thinners

Rule 1143 governs the sale, use, and manufacturing of paint thinners and multi-purpose solvents that are used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations. This rule regulates the VOC content of solvents used during construction. Solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1143.

Rule 1403 – Asbestos Removal

Rule 1403 governs asbestos emissions from demolition and renovation activities. The existing structure on the project site shall be surveyed for asbestos prior to demolition activities. If asbestos is found within the existing structures, the asbestos shall be removed through utilization of the removal procedures detailed in Rule 1403.

State of California Rules

The following lists the State of California rules that are applicable to all nonresidential projects in the State.

CARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the California Air Resources Board (CARB) adopted California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 to reduce diesel particulate matter (DPM) and NOx emissions from in-use off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. Performance requirements of the rule are based on a fleet's average NOx emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirement making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less). Currently, no commercial operation in California may add any equipment to their fleet that has a Tier 0 or Tier 1 engine. By January 1, 2018 medium and large fleets will be restricted from adding Tier 2 engines to their fleets and by January 2023, no commercial operation will be allowed to add Tier 2 engines to their fleets.

It should be noted that commercial fleets may continue to use their existing Tier 0 and 1 equipment, if they can demonstrate that the average emissions from their entire fleet emissions meet the NOx emissions targets.

CARB Resolution 08-43 for On-Road Diesel Truck Fleets

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4 Final) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. By January 1, 2014, 50 percent of a truck fleet is required to have installed Best Available Control Technology (BACT) for NOx emissions and 100 percent of a truck fleet installed BACT for PM10 emissions. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California. All on-road diesel trucks utilized during construction of the proposed project will be required to comply with Resolution 08-43.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) standards require the installation of insulated hot water pipes, improved window performance, improved wall insulation, and mandatory duct sealing. Other Title 24 requirements include the use of cool roofing shingles, a minimum 1-inch air space between roof material and roof deck, and a minimum of R-22 roof/ceiling insulation. All lighting is required to be high efficiency and daylight sensors and motion sensors are required for outdoor lighting, bathrooms, utility rooms, and other spaces. The forced air systems are required to limit leakage to 5 percent or less and requires all heat pump systems to be equipped with liquid line filter driers. The 2016 Title 24 Part 6 standards are anticipated to reduce electricity consumption by 281 gigawatt-hours per year and natural gas consumption by 16 million therms per year (http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf).

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (Title 24) requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for non-residential buildings include a 20 percent reduction of potable water use within buildings through use of low-flow fixtures, a 50 percent construction waste diversion from landfills, use of building finish materials and carpets that emit low levels of volatile organic compounds.

1.5 Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines air quality and GHG emissions checklist questions.

Conflict with or obstruct implementation of the applicable air quality plan?

Less than significant impact.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than significant impact.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?

Less than significant impact.

Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact.

Create objectionable odors affecting a substantial number of people?

Less than significant impact.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant impact.

Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Less than significant impact.

1.6 Mitigation Measures Required for the Proposed Project

This analysis found that implementation of the State and SCAQMD air quality and GHG emissions reductions regulations were adequate to limit criteria pollutants, toxic air contaminants, odors, and GHG emissions from the proposed project to less than significant levels. No mitigation measures are required for the proposed project with respect to air quality and GHG emissions.

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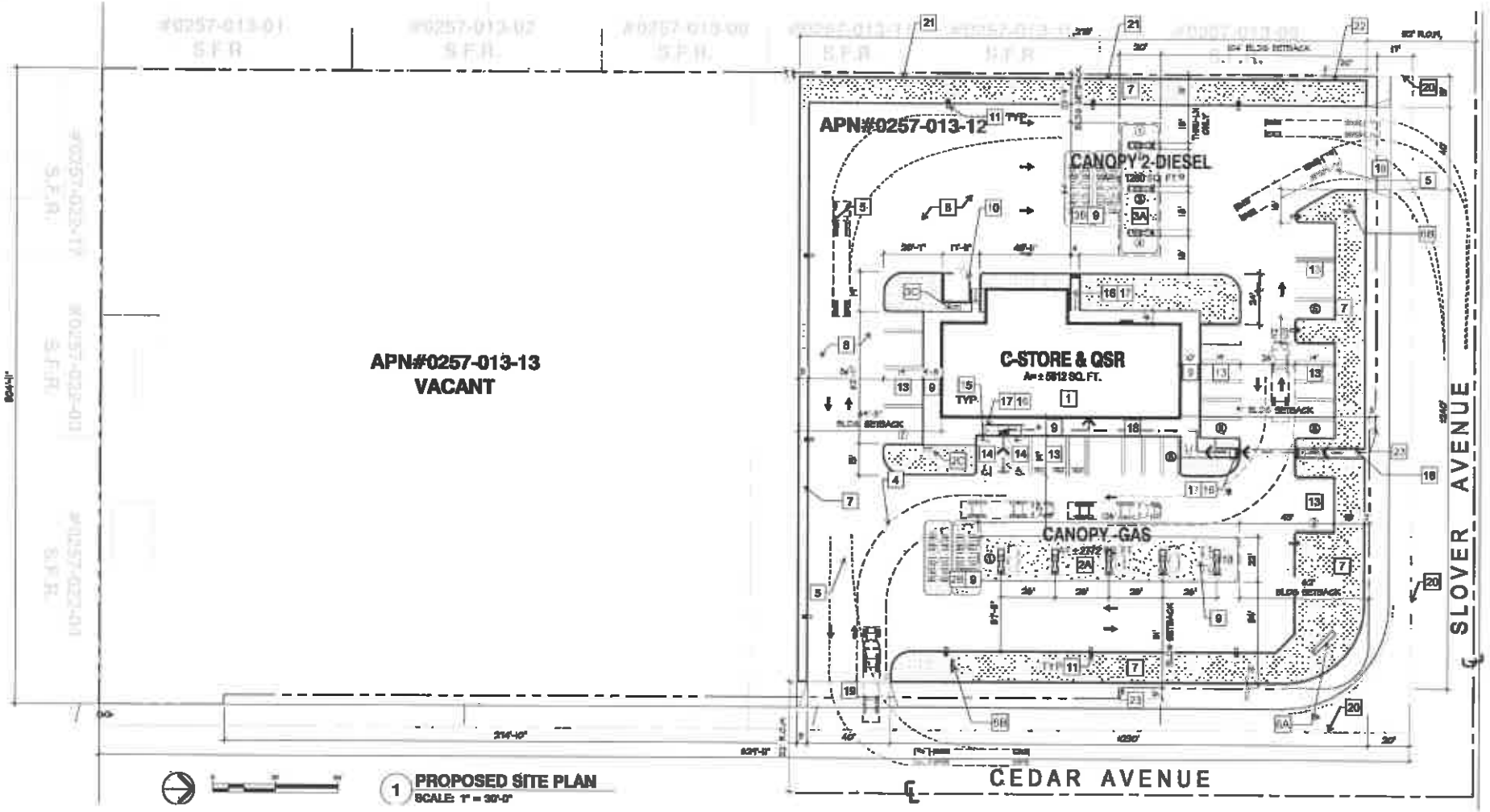
Figure 1
Project Local Study Area



SOURCE: Karaki Western States Engineering

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Figure 2
Proposed Site Plan

2.0 POLLUTANTS

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

2.1 Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen oxides, carbon monoxide, sulfur oxides, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Oxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NO_x and the pollutants formed from NO_x can be transported over long distances, following the patterns of prevailing winds. Therefore controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone is not usually emitted directly into the air but in the vicinity of ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath

a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Oxides

Sulfur Oxide (SOx) gases are formed when fuel containing sulfur, such as coal and oil is burned, as well as from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particle matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. PM is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

2.2 Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and

acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

TACs are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to *The California Almanac of Emissions and Air Quality 2013 Edition*, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). DPM is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of DPM as a TAC in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in DPM by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of DPM as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by CARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The nearest likely locations of naturally occurring asbestos, as identified in the *General Location Guide for Ultramafic Rocks in California*, prepared by the California Division of Mines and Geology, is located in Santa Barbara County. The nearest historic asbestos mine to the project site, as identified in the *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California,* prepared by U.S. Geological Survey, is located at Asbestos Mountain, which is approximately 62 miles southeast of the project site in the San Jacinto Mountains. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

2.3 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHGs), play a critical role in the Earth's radiation amount by trapping infrared radiation from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as

global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid 1700s, each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC) indicates that concentrations were 379 ppm in 2005, an increase of more than 30 percent. Left unchecked, the IPCC projects that concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources. This could result in an average global temperature rise of at least two degrees Celsius or 3.6 degrees Fahrenheit.

Methane

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs)). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. N_2O is also commonly used as an aerosol spray propellant (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and race cars).

Chlorofluorocarbons

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride

Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the

incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

2.4 Global Warming Potential

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to the reference gas, CO_2. The GHGs listed by the IPCC and the CEQA Guidelines are discussed in this section in order of abundance in the atmosphere. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. To simplify reporting and analysis, GHGs are commonly defined in terms of their GWP. The IPCCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e. The GWP of CO_2 is by definition, 1. The GWP values used in this analysis are based on the IPCC Second Assessment Report (SAR) and United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines, and are detailed in Table A. The SAR GWPs are used in CARB's California inventory and AB32 Scoping Plan estimates.

Table A – Global Warming Potentials, Atmospheric Lifetimes and Abundances of GHGs

Gas	Atmospheric Lifetime (years)[1]	Global Warming Potential (100 Year Horizon)[2]	Atmospheric Abundance
Carbon Dioxide (CO_2)	50-200	1	379 ppm
Methane (CH_4)	9-15	25	1,774 ppb
Nitrous Oxide (N_2O)	114	298	319 ppb
HFC-23	270	14,800	18 ppt
HFC-134a	14	1,430	35 ppt
HFC-152a	1.4	124	3.9 ppt
PFC: Tetrafluoromethane (CF_4)	50,000	7,390	74 ppt
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200	2.9 ppt
Sulfur Hexafluoride (SF_6)	3,200	22,800	5.6 ppt

Notes:
[1] Defined as the half-life of the gas.
[2] Compared to the same quantity of CO_2 emissions and is based on the Intergovernmental Panel On Climate Change (IPCC) 2007 standard, which is utilized in CalEEmod (Version 2016.3.1), which is used in this report (CalEEmod user guide: Appendix A).
Definitions: ppm = parts per million; ppb = parts per billion; ppt = parts per trillion
Source: IPCC 2007, EPA 2015

3.0 AIR QUALITY MANAGEMENT

3.1 Regulatory Setting

The air quality at the project site is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

International

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. The parties of the UNFCCC adopted the Kyoto Protocol, which set binding GHG reduction targets for 37 industrialized countries, the objective of reducing their collective GHG emissions by five percent below 1990 levels by 2012. The Kyoto Protocol has been ratified by 182 countries, but has not been ratified by the United States. It should be noted that Japan and Canada opted out of the Kyoto Protocol and the remaining developed countries that ratified the Kyoto Protocol have not met their Kyoto targets. The Kyoto Protocol expired in 2012 and the amendment for the second commitment period from 2013 to 2020 has not yet entered into legal force. The Parties to the Kyoto Protocol negotiated the Paris Agreement in December 2015, agreeing to set a goal of limiting global warming to less than 2 degrees Celsius compared with pre-industrial levels. The agreement will become legally binding if it is ratified by at least 55 countries which together represent at least 55 percent of global greenhouse emissions by April 21, 2017.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

Federal – United States Environmental Protection Agency

The Clean Air Act, first passed in 1963 with major amendments in 1970, 1977 and 1990, is the overarching legislation covering regulation of air pollution in the United States. The Clean Air Act has established the mandate for requiring regulation of both mobile and stationary sources of air pollution at the state and federal level. The Environmental Protection Agency (EPA) was created in 1970 in order to consolidate research, monitoring, standard-setting and enforcement authority into a single agency.

The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. NAAQS pollutants were identified using medical evidence and are shown below in Table C.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

Table B – State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm / 1-hour 0.07 ppm / 8-hour	0.070 ppm, / 8-hour	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm / 1-hour 9.0 ppm / 8-hour	35.0 ppm / 1-hour 9.0 ppm / 8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm / 1-hour 0.030 ppm / annual	100 ppb / 1-hour 0.053 ppm / annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm / 1-hour 0.04 ppm / 24-hour	75 ppb / 1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 $\mu g/m^3$ / 24-hour 20 $\mu g/m^3$ / annual	150 $\mu g/m^3$ / 24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 $\mu g/m^3$ / annual	35 $\mu g/m^3$ / 24-hour 12 $\mu g/m^3$ / annual	
Sulfates	25 $\mu g/m^3$ / 24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage.
Lead	1.5 $\mu g/m^3$ / 30-day	0.15 $\mu g/m^3$ /3-month rolling	(a) Learning disabilities; and (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles when relative humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Source: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf .

The CARB defines attainment as the category given to an area with no violations in the past three years. As indicated below in Table C, the Air Basin has been designated by EPA for the national standards as a non-attainment area for ozone (O_3) and suspended particulates (PM10 and PM2.5) and partial non-

attainment for lead. Currently, the Air Basin is in attainment with the national ambient air quality standards for carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2).

Table C – South Coast Air Basin Attainment Status

Criteria Pollutant	Standard	Averaging Time	Designation[a)]	Attainment Date[b)]
1-Hour Ozone	NAAQS	1979 1-Hour (0.12 ppm)	Nonattainment (Extreme)	2/6/2023 Originally 11/15/2010 (not attained)[c)]
	CAAQS	1-Hour (0.09 ppm)	Nonattainment	N/A
8-Hour Ozone[d)]	NAAQS	1997 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	NAAQS	2008 8-Hour (0.075 ppm)	Nonattainment (Extreme)	7/20/2032
	NAAQS	2015 8-Hour (0.070 ppm)	Designations Pending	~2037
	CAAQS	8-Hour (0.070 ppm)	Nonattainment	Beyond 2032
CO	NAAQS	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	CAAQS	1-Hour (20 ppm) 8-Hour (9 ppm)	Attainment	6/11/2007 (attained)
NO_2[e)]	NAAQS	1-Hour (0.10 ppm)	Unclassifiable/ Attainment	N/A (attained)
	NAAQS	Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
	CAAQS	1-Hour (0.18 ppm) Annual (0.030 ppm)	Attainment	—
SO_2[f)]	NAAQS	1-Hour (75 ppb)	Designations Pending (expect Unclassifiable/ Attainment)	N/A (attained)
	NAAQS	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/ Attainment	3/19/1979 (attained)
PM10	NAAQS	1987 24-hour (150 $\mu g/m^3$)	Attainment (Maintenance)[g)]	7/26/2013 (attained)
	CAAQS	24-hour (50 $\mu g/m^3$) Annual (20 $\mu g/m^3$)	Nonattainment	N/A
PM2.5[b)]	NAAQS	2006 24-Hour (35 $\mu g/m^3$)	Nonattainment (Serious)	12/31/2019
	NAAQS	1997 Annual (15.0 $\mu g/m^3$)	Nonattainment	4/5/2015
	NAAQS	2012 Annual (12.0 $\mu g/m^3$)	Nonattainment (Serious)	12/31/2025
	CAAQS	Annual (12.0 $\mu g/m^3$)	Nonattainment	N/A
Lead	NAAQS	3-Months Rolling (0.15 $\mu g/m^3$)	Nonattainment (Partial)	12/31/2015

Source: SCAQMD, February 2016

Notes:

a) U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable

b) A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration

c) 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements

d) 1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the revoked 1997 O_3 standard is still subject to anti-backsliding requirements

e) New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO2 standard retained

f) The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are still pending, with Basin

expected to be designated Unclassifiable /Attainment.
g) Annual PM10 standard was revoked, effective December 18, 2006; 24-hour PM10 NAAQS deadline was 12/31/2006; SCAQMD request for attainment redesignation and PM10 maintenance plan was approved by U.S. EPA on June 26, 2013, effective July 26, 2013.
h) Attainment deadline for the 2006 24-Hour PM2.5 NAAQS (designation effective December 14, 2009) is December 31, 2019 (end of the 10th calendar year after effective date of designations for Serious nonattainment areas). Annual PM2.5 standard was revised on January 15, 2013, effective March 18, 2013, from 15 to 12 $\mu g/m^3$. Designations effective April 15, 2015, so Serious area attainment deadline is December 31, 2025.
i) Partial Nonattainment designation – Los Angeles County portion of Basin only for near-source monitors. Expect to remain in attainment based on current monitoring data.

In 2011, the Air Basin exceeded federal standards for either ozone or PM2.5 at one or more locations on a total of 124 days, based on the current federal standards for 8-hour ozone and 24-hour PM2.5. Despite substantial improvements in air quality over the past few decades, some air monitoring stations in the Air Basin still exceed the NAAQS for ozone more frequently than any other stations in the U.S. In 2011, three of the top five stations that exceeded the 8-hour ozone NAAQS were located in the Air Basin (Central San Bernardino Mountains, East San Bernardino Valley, and Metropolitan Riverside County). (SCAQMD 2012)

PM2.5 in the Air Basin has improved significantly in recent years, with 2010 and 2011 being the cleanest years on record. In 2011, only one station in the Air Basin (Metropolitan Riverside County at Mira Loma) exceeded the annual PM2.5 NAAQS and the 98th percentile form of the 24-hour PM2.5 NAAQS, as well as the 3-year design values for these standards. Basin-wide, the federal PM2.5 24-hour standard level was exceeded in 2011 on 17 sampling days. (SCAQMD 2012)

The Air Basin is currently in attainment for the federal standards for NO_2. While the concentration level of the new 1-hour NO_2 federal standard (100 ppb) was exceeded in the Air Basin at two stations (Central Los Angeles and Long Beach) on the same day in 2011, the NAAQS NO_2 design value has not been exceeded. (SCAQMD 2012) Therefore, the Basin remains in attainment of the NO_2 NAAQS.

Although much of the South Coast Air Basin, including the proposed site location of San Bernardino County, is in attainment for lead, the EPA designated the Los Angeles County portion of the Air Basin as nonattainment for the revised (2008) federal lead standard (0.15 $\mu g/m^3$, rolling 3-month average). This was due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in Vernon and the City of Industry exceeding the revised standard in the 2007-2009 period of data used. As of the 2009-2011 data period, only one of these stations (Vernon) still exceeded the lead standard. The *2012 Lead State Implementation Plan Los Angeles County*, prepared by SCAQMD and adopted on May 4, 2012, provided measures to meet attainment of lead by December 31, 2015. Current monitoring data shows that lead is now below the standards at all monitoring stations, however it will take three years of meeting the standards before Los Angeles County can request to be re-designated by the EPA.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions did not impose any requirements on industry or other entities, however, since 2009 the EPA has been providing GHG emission standards for vehicles and other stationary sources of GHG emissions that are regulated by the EPA. On September 13, 2013 the EPA Administrator signed 40 CFR Part 60, that limits emissions from new sources to 1,100 pounds of CO_2 per MWh for fossil fuel-fired utility boilers and 1,000 pounds of CO_2 per MWh for large natural gas-fired combustion units.

On August 3, 2015, the EPA announced the Clean Power Plan, emissions guidelines for U.S. states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired power plants (Federal Register Vol. 80, No. 205, October 23 2015). On February 9, 2016 the Supreme Court stayed implementation of the Clean Power Plan due to a legal challenge from 29 states, until the Supreme Court rules on the case next year.

State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CAAQS for criteria pollutants are shown above in Table B. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g. hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The Air Basin has been designated by the CARB as a non-attainment area for ozone, PM10, PM2.5 and lead. Currently, the South Coast Air Basin is in attainment with the ambient air quality standards for CO, NO_2, SO_2, and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

In 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. In 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4 Final) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California.

CARB is also responsible for regulations pertaining to Toxic Air Contaminants (TACs). The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release in California. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

CARB also proposed interim statewide CEQA thresholds for GHG emissions and released *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California*

Environmental Quality Act, on October 24, 2008 that has been utilized by the SCAQMD's GHG Significance Threshold Stakeholder Working Group in their framework for developing SCAQMD's draft GHG emissions thresholds. The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Executive Order B-30-15, Senate Bill 32 and Assembly Bill 197

The California Governor issued Executive Order B-30-15 on April 29, 2015 that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. This executive order aligns California's GHG reduction targets with those of other international governments, such as the European Union that set the same target for 2030 in October, 2014. This target will make it possible to reach the ultimate goal of reducing GHG emissions 80 percent under 1990 levels by 2050 that is based on scientifically established levels needed in the U.S.A to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Executive Order B-29-15

The California Governor issued Executive Order B-29-15 on April 1, 2015 and directed the State Water Resources Control Board to impose restrictions to achieve a statewide 25% reduction in urban water usage and directed the Department of Water Resources to replace 50 million square feet of lawn with drought tolerant landscaping through an update to the State's Model Water Efficient Landscape Ordinance. The Ordinance also requires installation of more efficient irrigation systems, promotion of greywater usage and onsite stormwater capture, and limits the turf planted in new residential landscapes to 25 percent of the total area and restricts turf from being planted in median strips or in parkways unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles. Executive Order B-29-15 would reduce GHG emissions associated with the energy used to transport and filter water.

Assembly Bill 1109

California Assembly Bill 1109 (AB 1109), which also known as the Lighting Efficiency and Toxics Reduction Act, prohibits the manufacturing of lights after January 1, 2010 that contain levels of hazardous substances prohibited by the European Union pursuant to the RoHS Directive. AB 1109 also requires reductions in energy usage for lighting and is structured to reduce lighting electrical consumption by: (1) At least 50 percent reduction from 2007 levels for indoor residential lighting; and (2) At least 25 percent reduction from 2007 levels for indoor commercial and all outdoor lighting by 2018. AB 1109 would reduce GHG emissions through reducing the amount of electricity required to be generated by fossil fuels in California.

Assembly Bill 1493

California Assembly Bill 1493 (also known as the Pavley Bill, in reference to its author Fran Pavley) was enacted on July 22, 2002 and required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2004, CARB approved the "Pavley I" regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. These regulations will reduce GHG emissions by 30 percent from 2002 levels by 2016. The second set of regulations "Pavley II" is currently in development and will be phased in between model years 2017 through 2025 and will reduce emissions by 45 percent by the year

2020 as compared to the 2002 fleet. The Pavley II standards are being developed by linking the GHG emissions and formerly separate toxic tailpipe emissions standards previously known as the "LEV III" (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars as well as promote zero-emissions auto technologies such as electricity and hydrogen, and through increasing the infrastructure for fueling hydrogen vehicles. In 2009, the U.S. EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks and sport utility vehicles. In September 2009, the Pavley I regulations were adopted by CARB.

Executive Order S-3-05

In 2005 the California Governor issued Executive Order S 3-05, GHG Emission, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels;
- 2020: Reduce greenhouse gas emissions to 1990 levels;
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs. The State achieved its first goal of reducing greenhouse gas emissions to 2000 levels by 2010.

Assembly Bill 32

In 2006, the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and utilize best management practices that are technologically feasible and cost effective.

In 2007 CARB released the calculated Year 1990 GHG emissions of 431 million metric tons of CO2e ($MMTCO_2e$). The 2020 target of 431 $MMTCO_2e$ requires the reduction of 78 $MMTCO_2e$, or approximately 16 percent from the State's projected 2020 business as usual emissions of 509 $MMTCO_2e$ (CARB, 2014). Under AB 32, CARB was required to adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 cap by 2020. Early measures CARB took to lower GHG emissions included requiring operators of the largest industrial facilities that emit 25,000 metric tons of CO_2 in a calendar year to submit verification of GHG emissions by December 1, 2010. The CARB Board also approved nine discrete early action measures that include regulations affecting landfills, motor vehicle fuels, refrigerants in cars, port operations and other sources, all of which became enforceable on or before January 1, 2010.

CARB's Scoping Plan that was adopted in 2009, proposes a variety of measures including: strengthening energy efficiency and building standards; targeted fees on water and energy use; a market-based cap-and-trade system; achieving a 33 percent renewable energy mix; and a fee regulation to fund the program. The 2014 update to the Scoping Plan identifies strategies moving beyond the 2020 targets to the year 2050.

The Cap and Trade Program established under the Scoping Plan sets a statewide limit on sources responsible for 85 percent of California's GHG emissions, and has established a market for long-term investment in energy efficiency and cleaner fuels since 2012.

Senate Bill 1368

Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September 2006. SB 1368 requires that the California Public Utilities Commission (CPUC) establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007 and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by CPUC and California Energy Commission (CEC).

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

In 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The standard was challenged in the courts, but has been in effect since 2011 and was re-approved by the CARB in 2015. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet annually. Reformulated gasoline mixed with corn-derived ethanol and low-sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel. Compressed natural gas and liquefied natural gas also may be low-carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles, are also considered as low-carbon fuels.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the State CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.

- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

Senate Bill 1078 (SB 1078) requires retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Assembly Bill 341 and Senate Bills 939 and 1374

Senate Bill 939 (SB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills. Assembly Bill 341 (AB 341) was adopted in 2011 and builds upon the waste reduction measures of SB 939 and 1374, and sets a new target of a 75 percent reduction in solid waste generated by the year 2020.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

Title 24 standards are updated on a three-year schedule and the most current 2016 standards went into effect on January 1, 2017. The Title 24 standards require the installation of insulated hot water pipes, improved window performance, improved wall insulation, and mandatory duct sealing. Title 24 also requires roofs to be constructed to be solar ready, with cool roofing shingles, a minimum 1-inch air space between roof material and roof deck, and a minimum of R-22 roof/ceiling insulation. All lighting is required to be high efficiency and daylight sensors and motion sensors are required for outdoor lighting, bathrooms, utility rooms and other spaces. The forced air systems are required to limit leakage to 5 percent or less and requires all heat pump systems to be equipped with liquid line filter driers. The 2016 Title 24 Part 6 standards are anticipated to reduce electricity consumption by 281 gigawatt-hours per year and natural gas consumption by 16 million therms per year (http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf).

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (Title 24) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The most current version is the 2013 California Green Building Standards Code (CalGreen), which became effective on January 1, 2014 and replaced the 2010 CalGreen. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings through use of low-flow fixtures, a 50 percent construction waste diversion from landfills, and use of building finish materials that emit low levels of volatile organic compounds.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. The *Draft Final 2016 Air Quality Management Plan* (2016 AQMP) was adopted by the SCAQMD Board on March 3, 2016 and its adoption is pending at CARB. The 2016 AQMP was prepared in order to meet the following standards:

- 8-hour Ozone (75 ppb) by 2032
- Annual PM2.5 (12 µg/m3) by 2021-2025
- 8-hour Ozone (80 ppb) by 2024 (updated from the 2007 and 2012 AQMPs)
- 1-hour Ozone (120 ppb) by 2023 (updated from the 2012 AQMP)
- 24-hour PM2.5 (35 µg/m3) by 2019 (updated from the 2012 AQMP)

In addition to meeting the above standards, the 2016 AQMP will also include revisions to the attainment demonstrations for the 1997 8-hour ozone NAAQS and the 1979 1-hour ozone NAAQS. The prior 2012 AQMP was prepared in order to demonstrate attainment with the 24-hour PM2.5 standard by 2014 through adoption of all feasible measures. The prior 2007 AQMP demonstrated attainment with the 1997 8-hour ozone (80 ppb) standard by 2023, through implementation of future improvements in control techniques and technologies. These "black box" emissions reductions represent 65 percent of the remaining NOx emission reductions by 2023 in order to show attainment with the 1997 8-hour ozone NAAQS. Given the magnitude of these needed emissions reductions, additional NOx control measures have been provided in the 2012 AQMP even though the primary purpose was to show compliance with 24-hour PM2.5 emissions standards.

The 2016 AQMP provides a new approach that focuses on available, proven and cost effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities to promote reductions in GHG emissions and TAC emissions as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings and industrial facilities to cleaner technologies in a manner that benefits not only air quality, but also local businesses and the regional economy.

Although SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the Air Basin. Instead, this is controlled through local jurisdictions in accordance to the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues the *CEQA Air Quality Handbook* (SCAQMD CEQA Handbook), prepared by SCAQMD, 1993, with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs detailed in the AQMPs. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. The SCAQMD intends that by providing this guidance, the air quality impacts of plans and development proposals will be analyzed accurately and consistently throughout the Air Basin, and adverse impacts will be minimized.

SCAQMD Working Group

Since neither CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that either provides a quantitative annual thresholds of 3,500 $MTCO_2e$ for residential uses, 1,400 $MTCO_2e$ for commercial uses, and 3,000 $MTCO_2e$ for mixed uses. An alternative annual threshold of 3,000 $MTCO_2e$ for all land use types is also proposed.

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted April, 2016 and the *2015 Federal Transportation Improvement* Program (FTIP), adopted October 2013, which addresses regional development and growth forecasts. Although the RTP/SCS and FTIP are primarily planning documents for future transportation projects a key component of these plans are to integrate land use planning with transportation planning that promotes higher density infill development in close proximity to existing transit service. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the AQMP. The RTP/SCS, FTIP, and AQMP are based on projections originating within the City and County General Plans.

Local – County of San Bernardino

Local jurisdictions, such as the County of San Bernardino, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the County is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The County is also responsible for the implementation of transportation control measures as outlined in the AQMPs. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with the CEQA requirements, the County does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the County and region will meet federal and state standards. Instead, the County relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

4.0 ATMOSPHERIC SETTING

The project site is located within the southern portion of San Bernardino County, which is part of the South Coast Air Basin (Air Basin) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter.

The climate of southern San Bernardino County, technically called an interior valley subclimate of the Southern California's Mediterranean-type climate, is characterized by hot dry summers, mild moist winters with infrequent rainfall, moderate afternoon breezes, and generally fair weather. Occasional periods of strong Santa Ana winds and winter storms interrupt the otherwise mild weather pattern. The clouds and fog that form along the area's coastline rarely extend as far inland as western San Bernardino County. When morning clouds and fog form, they typically burn off quickly after sunrise. The most important weather pattern from an air quality perspective is associated with the warm season airflow across the densely populated areas located west of the project site. This airflow brings polluted air into western San Bernardino County late in the afternoon. This transport pattern creates unhealthful air quality that may extend to the project site particularly during the summer months.

Winds are an important parameter in characterizing the air quality environment of a project site because they both determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in southern San Bernardino County are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but as discussed above, these coastal winds carry significant amounts of industrial and automobile air pollutants from the densely urbanized western portion of the Air Basin into the interior valleys which become trapped by the mountains that border the eastern and northern edges of the Air Basin.

In the summer, strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloud.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Air Basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the Fontana Kaiser Monitoring Station, which is the nearest weather station to the project site with historical data are shown below in Table D. Table D shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table D – Monthly Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	66.8	69.4	70.1	74.5	79.9	86.7	95.0	94.4	91.3	83.0	73.6	68.3
Avg. Min. Temperature	44.0	45.0	46.3	48.4	52.6	56.6	62.2	62.9	61.3	55.4	48.5	44.4
Avg. Total Precipitation (in.)	3.65	2.85	2.80	1.13	0.26	0.04	0.01	0.11	0.34	0.34	1.72	2.07

Source: Source: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3120

4.1 Monitored Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the Air Basin. Estimates of the existing emissions in the Air Basin provided in the 2012 AQMP, indicate that collectively, mobile sources account for 59 percent of the VOC, 88 percent of the NOx emissions and 40 percent of directly emitted PM2.5, with another 10 percent of PM2.5 from road dust.

SCAQMD has divided the Air Basin into 38 air-monitoring areas. The project site is located in Air Monitoring Area 34, which covers the central portion of the San Bernardino Valley. The nearest air monitoring station to the project site is the Fontana-Arrow Highway Monitoring Station (Fontana Station), which is located approximately 6 miles northwest of the project site at 14360 Arrow Boulevard, Fontana. However, it should be noted that due to the air monitoring station's distance from the project site, recorded air pollution levels at the Fontana Station reflect with varying degrees of accuracy, local air quality conditions at the project site. It should also be noted that CO measurements have not been provided, since CO is currently in attainment in the Air Basin and monitoring of CO within the Air Basin ended on March 31, 2013.

The monitoring data from the Fontana Station is presented in Table E and shows the most recent three years of monitoring data from CARB. Table E shows that ozone and particulate matter (PM10 and PM2.5) are the air pollutants of primary concern in the project area, which are detailed below:

Ozone

The State 1-hour concentration standard for ozone has been exceeded between 31 and 36 days each year over the past three years at the Fontana Station. The State 8-hour ozone standard has been exceeded between 52 and 68 days each year over the past three years at the Fontana Station. The Federal 8-hour ozone standard has been exceeded between 52 and 66 days each year over the past three years at the Fontana Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of Southern California contribute to the ozone levels experienced at this monitoring station, with the more significant areas being those directly upwind.

Nitrogen Dioxide

The Fontana Station did not record an exceedance of the Federal 1-hour NO_2 standard for the last three years.

Table E – Local Area Air Quality Monitoring Summary

Pollutant (Standard)	Year[1] 2013	2014	2015
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.151	0.127	0.133
Days > CAAQS (0.09 ppm)	**34**	**31**	**36**
Maximum 8-Hour Concentration (ppm)	0.123	0.106	0.111
Days > NAAQS (0.070 ppm)	**66**	**52**	**57**
Days > CAAQs (0.070 ppm)	**68**	**52**	**59**
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppb)	81.7	70.4	89.1
Days > NAAQS (100 ppb)	0	0	0
Inhalable Particulates (PM10):			
Maximum 24-Hour California Measurement (ug/m^3)	86	65	92
Days > NAAQS (150 ug/m^3)	0	0	0
Days > CAAQS (50 ug/m^3)	**15**	**10**	**13**
Annual Arithmetic Mean (AAM) (ug/m^3)	40.7	39.7	34.4
Annual > NAAQS (50 ug/m^3)	No	No	No
Annual > CAAQS (20 ug/m^3)	**Yes**	**Yes**	**Yes**
Ultra-Fine Particulates (PM2.5):			
Maximum 24-Hour National Measurement (ug/m^3)	43.6	34.9	50.5
Days > NAAQS (35 ug/m^3)	**1**	0	**3**
Annual Arithmetic Mean (AAM) (ug/m^3)	12.2	ND	11
Annual > NAAQS and CAAQS (12 ug/m^3)	**Yes**	ND	No

Notes: Exceedances are listed in **bold**. CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million; ppb = parts per billion; ND = no data available.
[1] Data obtained from Fontana Station.
Source: http://www.arb.ca.gov/adam/

Particulate Matter

The State 24-hour concentration standard for PM10 has been exceeded between 10 and 15 days each year over the past three years at the Fontana Station. Over the past three years the Federal 24-hour standard for PM10 has not been exceeded at the Fontana Station. The annual PM10 concentration at the Fontana Station has exceeded the State standard for the past three years and has not exceeded the Federal standard for the past three years.

Over the past three years the 24-hour concentration standard for PM2.5 has only been exceeded between 0 and 3 days each year over the past three years at the Fontana Station. The annual PM2.5 concentration at the Fontana Station exceeded the State or Federal standard only during 2013 for the past three years. There does not appear to be a noticeable trend for PM10 or PM2.5 in either maximum particulate concentrations or days of exceedances in the area. Particulate levels in the area are due to natural sources, grading operations, and motor vehicles.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

4.2 Toxic Air Contaminant Levels in the Air Basin

In order to determine the Air Basin-wide risks associated with major airborne carcinogens, the SCAQMD conducted the Multiple Air Toxics Exposure Study (MATES) studies. According to the SCAQMD's MATES-IV study, the project site has an estimated cancer risk of 772 per million persons chance of cancer. In comparison, the average cancer risk for the Air Basin is 991 per million persons, which is based on the use of age-sensitivity factors detailed in the OEHHA Guidelines (OEHHA, 2015).

In order to provide a perspective of risk, it is often estimated that the incidence in cancer over a lifetime for the U.S. population ranges between 1 in 3 to 4 and 1 in 3, or a risk of about 300,000 per million persons. The MATES-III study referenced a Harvard Report on Cancer Prevention, which estimated that of cancers associated with known risk factors, about 30 percent were related to tobacco, about 30 percent were related to diet and obesity, and about 2 percent were associated with environmental pollution related exposures that includes hazardous air pollutants.

5.0 MODELING PARAMETERS AND ASSUMPTIONS

5.1 CalEEMod Model Input Parameters

The criteria air pollution and GHG emissions impacts created by the proposed project have been analyzed through use of CalEEMod Version 2016.3.1. CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2014 computer program to calculate the emission rates specific for South Coast Air Basin portion of San Bernardino County for employee, vendor and haul truck vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy equipment operations. EMFAC2014 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour.

The project characteristics in the CalEEMod were set to a project location of the South Coast Air Basin portion of San Bernardino County, a Climate Zone of 10, utility company of Southern California Edison, and the opening year of 2017 was utilized in this analysis.

Land Use Parameters

The proposed project would consist of the development of a 13-vehicle fueling position gas station with two canopies that total 4,052 square feet, and a 5,812 square foot convenience store (C-Store) with a quick serve restaurant (QSR). There will also be a 49-space parking lot. A summary of the proposed project's development is shown above in Table F.

Table F – CalEEMod Land Use Parameters

Proposed Land Use	Land Use Subtype in CalEEMod	Land Use Size[1]	Lot Acreage[2]	Building/Paving[3] (square feet)
Gas Station, C-Store, and QSR	Gasoline/Service Station	13 PM	0.8	9,485
Parking Lot	Parking Lot	49 PS	1.09	19,600

Notes:
[1] PM = Pump, PS = Parking Space.
[2] Lot acreage calculated based on a total lot acreage of 1.89 acres.
[3] Building/Paving square feet represent area where architectural coatings will be applied.

Construction Parameters

Construction activities are anticipated to start around Summer 2017 and take approximately seven months to complete. The construction-related GHG emissions were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The phases of construction activities that have been analyzed are detailed below and include: 1) demolition, 2) grading, 3) building construction, 4) paving, and 5) application of architectural coatings.

Demolition

The demolition phase would consist of demolishing the existing structures, which include an approximately 6,300 square foot commercial building, a 1,920 square foot residential building, and a 750 square foot residential building. This would result in a total of 8,970 square feet of existing building space to be demolished in addition to approximately 26,600 square feet of paved parking lot area. The existing pavement was assumed to be an average of 4-inches thick and weigh 145 pounds per square foot, which results in 1,015 tons of pavement that would be removed from the project site. For the existing structures, CalEEMod utilizes a factor of 0.046 tons of debris of building material per building square

foot. This results in 413 tons of debris that would be generated from demolition of the 8,970 square feet of building space. Therefore, the combined demolition of pavement and building space would require the removal of 1,428 tons of building material that would be exported from the site and would require 129 haul truck trips.

The demolition phase is anticipated to start around June 2017 and was modeled as occurring over four weeks. The demolition activities would require 13 worker trips per day. In order to account for water truck emissions, six vendor truck emissions were added to the demolition phase. The onsite equipment would consist of one concrete/industrial saw, one rubber tired dozer and three tractors, loaders, or backhoes, which is based on the CalEEMod default equipment mix. The mitigation of water all exposed areas three times per day was chosen in order to account for the fugitive dust reduction that would occur through adhering to SCAQMD Rule 403, which requires that the Best Available Control Measures be utilized to reduce fugitive dust emissions.

Grading

The grading phase includes trenching activities and would occur after completion of the demolition phase and is anticipated to take place over four days. The onsite equipment would consist of one grader, one rubber tired dozer, and one tractor, loader, or backhoe, which is based on the CalEEMod default equipment mix. The grading activities would require eight worker trips per day. In order to account for water truck emissions, six daily vendor truck trips were added to the grading phase. The mitigation of water all exposed areas three times per day was chosen in order to account for the fugitive dust reduction that would occur through adhering to SCAQMD Rule 403, which requires that the Best Available Control Measures be utilized to reduce fugitive dust emissions.

Building Construction

The building construction would occur after the completion of the grading phase. The building construction phase was modeled based on occurring over approximately six months. The building construction would require up to 11 worker trips and five vendor trips per day. The onsite equipment would consist of the simultaneous operation of one crane, one forklift, one generator set, three welders, and one tractor, loader, or backhoe, which is based on the CalEEMod default equipment mix.

Paving

The paving would occur after the completion of the building construction phase. The paving activities was modeled as occurring over two weeks and would require up to 13 worker trips per day. The onsite equipment would consist of the simultaneous operation of one cement and mortar mixer, one paver, one paving equipment, one roller, and one tractor, loader, or backhoe, which is based on the CalEEMod default equipment mix.

Architectural Coating

The application of architectural coatings would occur after the completion of the paving phase. The architectural coating phase was modeled based on covering 14,228 square feet of nonresidential interior area, 4,743 square feet of nonresidential exterior area, and 1,176 square feet of parking area that includes striping of the parking lots, painting of signs, and other architectural coatings in public areas. The architectural coating phase was modeled as occurring over two weeks and would require up to two worker trips per day. The onsite equipment would consist of one air compressor, which is based on the CalEEMod default equipment mix.

Operational Emissions Modeling

The operations-related criteria air pollutant emissions and GHG emissions created by the proposed project have been analyzed through use of the CalEEMod model. The proposed project was analyzed in the CalEEMod model based on the land use parameters provided above.

Mobile Sources

Mobile sources include emissions the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed through use of the project trip rate of 162.78 daily trips that was obtained from the *Proposed Chevron Convenience Store and Service Station Traffic Impact Study* (Traffic Impact Analysis), prepared by RK Engineering Group, Inc., October 24, 2016. This resulted in the proposed project generating 2,116 trips per day. No other changes were made to the CalEEMod default mobile source parameters.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. The area source emissions were based on the on-going use of the proposed 13-pump gas station and convenience store and QSR in the CalEEMod model. No changes were made to the default area source parameters in the CalEEMod model.

Energy Usage

Energy usage includes emissions from electricity and natural gas used onsite (excluding fireplaces). The energy usage was based on the ongoing use of the proposed 13-pump gas station and convenience store and QSR in the CalEEMod Model. No changes were made to the default energy usage parameters in the CalEEMod model.

Solid Waste

Waste includes the GHG emissions associated with the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. The analysis was based on the default CalEEMod waste generation rates of 7.01 tons of solid waste per year from the proposed project. No changes were made to the default solid waste parameters in the CalEEMod model.

Water and Wastewater

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. The analysis was based on the default CalEEMod water usage rate of 172,664.56 gallons per year of indoor water usage and 105,826.66 gallons per year of outdoor water usage from the proposed project. No changes were made to the default water and wastewater parameters in the CalEEMod model.

6.0 THRESHOLDS OF SIGNIFICANCE

6.1 Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the Air Basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table G.

Table G – SCAQMD Regional Criteria Pollutant Emission Thresholds of Significance

	Pollutant Emissions (pounds/day)						
	VOC	NOx	CO	SOx	PM10	PM2.5	Lead
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

The regional criteria pollutants analysis for both construction and operation of the proposed project can be found below in Section 7.3.

6.2 Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. SCAQMD has also provided *Final Localized Significance Threshold Methodology* (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The LST Methodology provides Look-Up Tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The project site is approximately 1.89 acres and is closest to the 2-acre project site shown in the Look Up Tables, which has been utilized in this analysis. As detailed above in Section 4.2, the project site is located in Air Monitoring Area 34, which covers the Central San Bernardino Valley. The nearest offsite sensitive receptors to the project site consist of single-family homes located as near as 10 feet (3 meters) west of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds. Table H below shows the LSTs for NO_2, PM10 and PM2.5 for both construction and operational activities.

Table H – SCAQMD Local Air Quality Thresholds of Significance

Activity	Allowable Emissions (pounds/day)[1]			
	NOx	CO	PM10	PM2.5
Construction	170	972	7	4
Operation	170	972	2	1

Notes:
[1] The nearest sensitive receptors are single-family homes located as near as 3 meters (10 feet) west of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds.
Source: Calculated from SCAQMD's Mass Rate Look-up Tables for two acres in Air Monitoring Area 34, Central San Bernardino Valley.

6.3 Toxic Air Contaminants

According to the SCAQMD CEQA Handbook, any project that has the potential to expose the public to toxic air contaminants in excess of the following thresholds would be considered to have a significant air quality impact:

- If the Maximum Incremental Cancer Risk is 10 in one million or greater; or
- Toxic air contaminants from the proposed project would result in a Hazard Index increase of 1 or greater.

In order to determine if the proposed project may have a significant impact related to hazardous air pollutants (HAP), the *Health Risk Assessment Guidance for analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*, (Diesel Analysis) prepared by SCAQMD, August 2003, recommends that if the proposed project is anticipated to create HAPs through stationary sources or regular operations of diesel trucks on the project site, then the proximity of the nearest receptors to the source of the HAP and the toxicity of the HAP should be analyzed through a comprehensive facility-wide health risk assessment (HRA). Since the proposed project has the potential to generate HAPs, an HRA was prepared in conjunction with this analysis.

6.4 Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

> "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
>
> The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

6.5 Greenhouse Gases

The County of San Bernardino GHG Emissions Reduction Plan (GHG Plan) requires the reduction of 159,423 metric tons of $C0_2$ equivalent emissions ($MTCO_2e$) per year from new development by 2020 as compared to the unmitigated conditions. The *Greenhouse Gas Emissions Development Review Processes* (GHG Review Processes), prepared for the County of San Bernardino, August 2011, provides project

level direction on how the County plans to achieve the reduction in GHG Emissions. The GHG Review Processes determined that projects that do not exceed 3,000 MTC per year will be consistent with the GHG Plan and determined to have a less than significant individual and cumulative impact for GHG emissions. For projects that exceed 3,000 MTC per year of GHG emissions the applicant may choose to either: utilize the Screening Tables, which consist of a list of mitigation measures, rated for their effectiveness and provide mitigation to reach 100 points; or provide a detailed GHG analysis that quantifies project design features or mitigation measures in order to reduce GHG emissions by 31 percent or more over year 2020 unmitigated GHG emissions levels.

7.0 IMPACT ANALYSIS

7.1 CEQA Thresholds of Significance

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to air quality and global climate change would occur if the proposed project is determined to result in:

- 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 non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

7.2 Air Quality Compliance

The proposed project would not conflict with or obstruct implementation of the SCAQMD Air Quality Management Plan (AQMP). The following section discusses the proposed project's consistency with the SCAQMD AQMP.

SCAQMD Air Quality Management Plan

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable GPs and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this report, short-term regional construction air emissions would not result in significant impacts based on SCAQMD regional thresholds of significance discussed above in Section 6.1 or local thresholds of significance discussed above in Section 6.2. The ongoing operation of the proposed project would generate air pollutant emissions that are inconsequential on a regional basis and would not result in significant impacts based on SCAQMD thresholds of significance discussed above in Section 6.1. The analysis for long-term local air quality impacts showed that local pollutant concentrations would not be projected to exceed the air quality standards. Therefore, a less than significant long-term impact would occur and no mitigation would be required.

Therefore, based on the information provided above, the proposed project would be consistent with the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to insure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The AQMP is developed through use of the planning forecasts provided in the RTP/SCS and FTIP. The RTP/SCS is a major planning document for the regional transportation and land use network within Southern California. The RTP/SCS is a long-range plan that is required by federal and state requirements placed on SCAG and is updated every four years. The FTIP provides long-range planning for future transportation improvement projects that are constructed with state and/or federal funds within Southern California. Local governments are required to use these plans as the basis of their plans for the purpose of consistency with applicable regional plans under CEQA. For this project, the Bloomington Community Plan prepared by the County of San Bernardino defines the assumptions that are represented in AQMP.

The project site is currently designated as General Commercial in the Community Plan and is zoned General Commercial (CG). The proposed project is consistent with the current land use designation and would not require a General Plan Amendment or zone change. As such, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur in relation to implementation of the AQMP.

Level of Significance

Less than significant impact.

7.3 Air Quality Standard Violation

The proposed project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. The following section calculates the potential air emissions associated with the construction and operations of the proposed project and compares the emissions to the SCAQMD standards.

Construction Emissions

The proposed project would consist of the development of a 13-vehicle fueling position gas station and a 5,812 square foot convenience store (C-Store) with a quick serve restaurant (QSR). There will also be a 49-space parking lot. The construction emissions have been analyzed for both regional and local air quality impacts as well as potential toxic air impacts.

Construction-Related Regional Impacts

The CalEEMod model has been utilized to calculate the construction-related regional emissions from the proposed project and the input parameters utilized in this analysis have been detailed in Section 5.1. The worst-case summer or winter daily construction-related criteria pollutant emissions from the proposed project for each phase of construction activities are shown below in Table I and the CalEEMod daily printouts are shown in Appendix A. Since it is possible that building construction, paving, and architectural coating activities may occur concurrently, Table I also shows the combined criteria pollutant emissions from building construction, paving and architectural coating phases of construction.

Table I – Construction-Related Regional Criteria Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Demolition[1]						
Onsite	2.76	26.76	15.56	0.02	2.24	1.63
Offsite	0.18	2.84	1.30	0.01	0.31	0.10
Total	2.94	29.60	16.86	0.03	2.55	1.73
Grading[1]						
Onsite	1.60	18.29	7.03	0.01	2.79	1.79
Offsite	0.09	0.83	0.69	0.00	0.14	0.04
Total	**1.69**	**19.12**	**7.72**	**0.01**	**2.93**	**1.83**
Building Construction						
Onsite	2.97	19.24	14.36	0.02	1.23	1.19
Offsite	0.10	0.71	0.86	0.01	0.16	0.05
Total	**3.07**	**19.95**	**15.22**	**0.03**	**1.39**	**1.24**
Paving						
Onsite	1.49	12.27	9.1	0.01	0.74	0.68
Offsite	0.10	0.07	0.83	0.00	0.15	0.04
Total	**1.59**	**12.34**	**9.98**	**0.01**	**0.89**	**0.72**
Architectural Coatings						
Onsite	9.67	2.19	1.87	0.00	0.17	0.17
Offsite	0.01	0.01	0.13	0.00	0.02	0.01
Total	**9.68**	**2.20**	**2.00**	**0.00**	**0.19**	**0.18**
Combined Building Construction, Paving, and Architectural Coatings	**14.34**	**34.49**	**27.20**	**0.04**	**2.47**	**2.14**
SCQAMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Demolition and Grading based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.
[2] Onsite emissions from equipment not operated on public roads.
[3] Offsite emissions from vehicles operating on public roads.
Source: CalEEMod Version 2016.3.1.

Table I shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds during demolition, grading, or the combined building construction, paving, and architectural coatings phases. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from construction were analyzed through utilizing the methodology described in *Localized Significance Threshold Methodology* (LST Methodology), prepared by SCAQMD, revised October 2009. The LST Methodology found the primary criteria pollutant emissions of concern are NOx, CO, PM10, and PM2.5. In order to determine if any of these pollutants require a detailed analysis of the local air quality impacts, each phase of construction was screened using the SCAQMD's Mass Rate LST Look-up Tables. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily onsite emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. Table J shows the onsite emissions from the CalEEMod model for the different construction phases and the calculated emissions thresholds that have been detailed above in Section 6.2. Since it is possible that building construction, paving, and architectural coating activities may occur concurrently, Table J also shows the combined local criteria pollutant emissions from building construction, paving and architectural coating phases of construction.

Table J – Construction-Related Local Criteria Pollutant Emissions

Phase	Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Demolition[1]	26.76	15.56	2.24	1.63
Grading[1]	18.29	7.03	2.79	1.79
Combined Building Construction, Paving, and Architectural Coatings	33.70	25.38	2.14	2.04
- *Building Construction*	*19.24*	*14.36*	*1.23*	*1.19*
- *Paving*	*12.27*	*9.15*	*0.74*	*0.68*
- *Architectural Coatings*	*2.19*	*1.87*	*0.17*	*0.17*
SCAQMD Thresholds for 25 meters (82 feet)[2]	**170**	**972**	**7**	**4**
Exceeds Threshold?	No	No	No	No

Notes:
[1] Demolition and Grading based on adherence to fugitive dust suppression requirements from SCAQMD Rule 403.
[2] The nearest sensitive receptors are single-family homes located as near as 3 meters (10 feet) west of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds.
Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two acres in Air Monitoring Area 34, Central San Bernardino Valley.

The data provided in Table J shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds during the demolition phase, the grading phase, or the combined building construction, paving, and architectural coatings phases. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Operational Emissions

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through

operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project. The potential operations-related air emissions have been analyzed below for the regional and local criteria pollutant emissions and cumulative impacts.

Operations-Related Criteria Pollutant Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through use of the CalEEMod model and the input parameters utilized in this analysis have been detailed in Section 5.2. The worst-case summer or winter VOC, NOx, CO, SO_2, PM10, and PM2.5 daily emissions created from the proposed project's long-term operations have been calculated and are summarized below in Table K and the CalEEMod daily emissions printouts are shown in Appendix A.

Table K – Operational Regional Criteria Pollutant Emissions

	Pollutant Emissions (pounds/day)					
Activity	**VOC**	**NOx**	**CO**	**SO_2**	**PM10**	**PM2.5**
Area Sources[1]	0.22	0.01	0.01	0.00	0.00	0.00
Energy Usage[2]	0.01	0.08	0.07	0.00	0.01	0.01
Mobile Sources[3]	4.03	19.62	22.33	0.06	2.97	0.83
Total Emissions	**4.26**	**19.71**	**22.41**	**0.06**	**2.98**	**0.84**
SCQAMD Operational Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[2] Energy usage consist of emissions from natural gas usage (excluding hearths).
[3] Mobile sources consist of emissions from vehicles and road dust.
Source: Calculated from CalEEMod Version 2016.3.1.

The data provided in Table K above shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions and local impacts from on-site operations.

Local CO Hotspot Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards of 20 ppm over one hour or 9 ppm over eight hours.

At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and

NAAQS. SCAQMD conducted a CO hot spot analysis for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards[1]. Since the nearby intersections to the proposed project are much smaller with less traffic than what was analyzed by the SCAQMD, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Local Criteria Pollutant Impacts from Onsite Operations

Project-related air emissions from onsite sources such as architectural coatings, landscaping equipment, and onsite usage of natural gas appliances may have the potential to create emissions areas that exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin.

The local air quality emissions from on-site operations were analyzed using the SCAQMD's Mass Rate LST Look-up Tables and the methodology described in LST Methodology. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. Table L shows the on-site emissions from the CalEEMod model that includes area sources, energy usage, and vehicles operating on-site and the calculated emissions thresholds.

Table L – Operations-Related Local Criteria Pollutant Emissions

On-Site Emission Source	Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Area Sources	0.01	0.01	0.00	0.00
Energy Usage	0.08	0.07	0.01	0.01
Onsite Vehicle Emissions[1]	2.45	2.79	0.37	0.10
Total Emissions	**2.55**	**2.87**	**0.38**	**0.11**
SCAQMD Thresholds for 25 meters (82 feet)[2]	**170**	**972**	**2**	**1**
Exceeds Threshold?	No	No	No	No

Notes:

[1] Onsite vehicle emissions based on 1/8 of the gross vehicular emissions, which is the estimated portion of vehicle emissions occurring within a quarter mile of the project site.

[2] The nearest sensitive receptors are single-family homes located as near as 3 meters (10 feet) west of the project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds.

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two acres in Air Monitoring Area 35, East San Bernardino Valley.

The data provided in Table L shows that the on-going operations of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 6.2. Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

Level of Significance

Less than significant impact.

[1] The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

7.4 Cumulative Net Increase in Non-Attainment Pollution

The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel throughout the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature. The project area is out of attainment for ozone and PM10 and PM2.5 particulate matter. In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts incorporates a three-tiered approach to assess cumulative air quality impacts.

- Consistency with the SCAQMD project specific thresholds for construction and operations;
- Project consistency with existing air quality plans; and
- Assessment of the cumulative health effects of the pollutants.

Consistency with Project Specific Thresholds

Construction-Related Impacts

The project site is located in the South Coast Air Basin, which is currently designated by the EPA for federal standards as a non-attainment area for ozone and PM2.5 and by CARB for the state standards as a non-attainment area for ozone, PM10, and PM2.5. The regional ozone, PM10, and PM2.5 emissions associated with construction of the proposed project have been calculated above in Section 7.3. The above analysis found that development of the proposed project would result in less than significant regional emissions of VOC and NOx (ozone precursors), PM10, and PM2.5 during construction of the proposed project. Therefore, a less than significant cumulative impact would occur from construction of the proposed project.

Operational-Related Impacts

The greatest cumulative operational impact on the air quality to the Air Basin will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development. In accordance with SCAQMD methodology, projects that do not exceed SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The regional ozone, PM10, and PM2.5 emissions created from the on-going operations of the proposed project have been calculated above in Section 7.3. The above analysis found that development of the proposed project would result in less than significant regional emissions of VOC and NOx (ozone precursors), PM10, and PM2.5 during operation of the proposed project. With respect to long-term emissions, this project would create a less than significant cumulative impact.

Consistency with Air Quality Plans

As detailed above in Section 7.2, the project site is currently designated as General Commercial in the Bloomington Community Plan and is zoned General Commercial (CG). The proposed project is consistent with the current land use designation and would not require a General Plan Amendment or zone change. Therefore, the proposed project would not result in an inconsistency with the current land use designation. As such, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMPs for the Air Basin.

Cumulative Health Impacts

The Air Basin is designated as nonattainment for ozone, PM10, and PM2.5, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (elderly, children, and the sick). Therefore, when the concentrations of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects. The regional analysis detailed above in Section 7.3 found that the proposed project would not exceed the SCAQMD regional significance thresholds for VOC and NOx (ozone precursors), PM10 and PM2.5. As such, the proposed project would result in a less than significant cumulative health impact.

Level of Significance

Less than significant impact.

7.5 Sensitive Receptors

The proposed project would not expose sensitive receptors to substantial pollutant concentrations. The local concentrations of criteria pollutant emissions produced in the nearby vicinity of the proposed project, which may expose sensitive receptors to substantial concentrations have been calculated above in Section 7.3 for both construction and operations, which are discussed separately below. The discussion below also includes an analysis of the potential impacts from toxic air contaminant emissions. The nearest sensitive receptors are single-family homes located as near as 10 feet west of the project site.

Construction-Related Sensitive Receptor Impacts

Construction of the proposed project may expose sensitive receptors to substantial pollutant concentrations of localized criteria pollutant concentrations and from toxic air contaminant emissions created from onsite construction equipment, which are described below.

Local Criteria Pollutant Impacts from Construction

The local air quality impacts from construction of the proposed project has been analyzed above in Section 7.3 and found that the construction of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 6.2. Therefore, construction of the proposed project would create a less than significant construction-related impact to local air quality and no mitigation would be required.

Toxic Air Contaminants Impacts from Construction

The greatest potential for toxic air contaminant emissions would be related to diesel particulate matter (DPM) emissions associated with heavy equipment operations during construction of the proposed project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the relatively limited number of heavy-duty construction equipment and the short-term construction schedule, the proposed project would not result in a long-term (i.e., 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes, requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet, and currently no commercial operator is allowed to purchase Tier 0 or Tier 1 equipment and by January 2023 no commercial operator

is allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project. As such, construction of the proposed project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

Operations-Related Sensitive Receptor Impacts

The on-going operations of the proposed project may expose sensitive receptors to substantial pollutant concentrations of local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from onsite operations. The following analyzes the vehicular CO emissions. Local criteria pollutant impacts from onsite operations, and toxic air contaminant impacts.

Local CO Hotspot Impacts from Project-Generated Vehicle Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential impacts to sensitive receptors. The analysis provided above in Section 7.3 shows that no local CO Hotspots are anticipated to be created at any nearby intersections from the vehicle traffic generated by the proposed project. Therefore, operation of the proposed project would result in a less than significant exposure of offsite sensitive receptors to substantial pollutant concentrations.

Local Criteria Pollutant Impacts from Onsite Operations

The local air quality impacts from the operation of the proposed project would occur from onsite sources such as architectural coatings, landscaping equipment, and onsite usage of natural gas appliances. The analysis provided above in Section 7.3 found that the operation of the proposed project would not exceed the local NOx, CO, PM10 and PM2.5 thresholds of significance discussed above in Section 6.2. Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

Operations-Related Toxic Air Contaminant Impacts

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas and according to *The California Almanac of Emissions and Air Quality 2013 Edition*, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program.

The TAC emissions from the proposed project and associated cancer and non-cancer (acute and chronic) risks have been analyzed in *Chevron Convenience Store & Service Station Project Health Risk Assessment* (HRA), prepared by Vista Environmental, March 2017. The HRA found that TAC emissions from the proposed project would create less than significant cancer and non-cancer risks at the nearby sensitive receptors and no mitigation would be required.

Therefore, operation of the proposed project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

Level of Significance

Less than significant impact.

7.6 Objectionable Odors

The proposed project would not create objectionable odors affecting a substantial number of people. Potential odor impacts have been analyzed separately for construction and operations below.

Individual responses to odors are highly variable and can result in a variety of effects. Generally, the impact of an odor results from a variety of factors such as frequency, duration, offensiveness, location, and sensory perception. The frequency is a measure of how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity in which he or she is engaged; and the sensitivity of the impacted receptor.

Sensory perception has four major components: detectability, intensity, character, and hedonic tone. The detection (or threshold) of an odor is based on a panel of responses to the odor. There are two types of thresholds: the odor detection threshold and the recognition threshold. The detection threshold is the lowest concentration of an odor that will elicit a response in a percentage of the people that live and work in the immediate vicinity of the project site and is typically presented as the mean (or 50 percent of the population). The recognition threshold is the minimum concentration that is recognized as having a characteristic odor quality, this is typically represented by recognition by 50 percent of the population. The intensity refers to the perceived strength of the odor. The odor character is what the substance smells like. The hedonic tone is a judgment of the pleasantness or unpleasantness of the odor. The hedonic tone varies in subjective experience, frequency, odor character, odor intensity, and duration.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints and solvents and from emissions from diesel equipment. The objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the project site's boundaries. Due to the transitory nature of construction odors, a less than significant odor impact would occur and no mitigation would be required.

Potential Operations-Related Odor Impacts

The proposed project would consist of the development a 13-pump gas station and associated convenience store, quick serve restaurant (QSR), and parking lot. Potential sources that may emit odors during the on-going operations of the proposed project would primarily occur from odor emissions from gas dispensing activities and from the trash storage areas. Pursuant to SCAQMD Rule 461 the proposed gas station will be required to utilize gas dispensing equipment that minimizes vapor and liquid leaks and requires that the equipment be maintained at proper working order, which will minimize odor impacts occurring from the gasoline and diesel dispensing facilities. Pursuant to County regulations, permanent trash enclosures that protect trash bins from rain as well as limit air circulation would be required for the trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 461 and County trash storage regulations, no significant impact related to odors would occur during the on-going operations of the proposed project. Therefore, a less than significant odor impact would occur and no mitigation would be required.

Level of Significance

Less than significant impact.

7.7 Generation of Greenhouse Gas Emissions

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The proposed project would result in the development of a 13-pump gas station with a convenience store and quick serve restaurant (QSR) and a 49-space parking lot. The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste disposal, water usage, and construction equipment.

The project's GHG emissions have been calculated with the CalEEMod model based on the parameters detailed in Section 5.1 above. A summary of the results is shown below in Table M and the CalEEMod model run is provided in Appendix B.

Table M – Proposed Project Greenhouse Gas Annual Emissions

	Greenhouse Gas Emissions (Metric Tons per Year)			
Category	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	0.00	0.00	0.00
Energy Usage[2]	53.22	0.00	0.00	53.45
Mobile Sources[3]	964.81	0.10	0.00	967.29
Solid Waste[4]	1.42	0.08	0.00	3.53
Water and Wastewater[5]	1.15	0.01	0.00	1.33
Construction[6]	4.87	0.00	0.00	4.89
Total Emissions	**1,025.47**	**0.19**	**0.00**	**1,030.49**
SCAQMD Draft Threshold of Significance for All Land Use Types				**3,000**

Notes:
[1] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscaping equipment.
[2] Energy usage consists of GHG emissions from electricity and natural gas usage.
[3] Mobile sources consist of GHG emissions from vehicles.
[4] Waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[5] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[6] Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.
Source: CalEEMod Version 2016.3.1.

The data provided in Table M above shows that the proposed project would create 1,030.49 $MTCO_2e$ per year. According to the SCAQMD draft threshold of significance detailed above in Section 6.5, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations would exceed 3,000 $MTCO_2e$ per year. Therefore, a less than significant generation of greenhouse gas emissions would occur from development of the proposed project. Impacts would be less than significant.

Level of Significance

Less than significant impact.

7.8 Greenhouse Gas Plan Consistency

The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions. On December 6, 2011, the County adopted a Greenhouse Gas Emissions Reduction Plan (Regional GHG Reduction Plan). In addition, the *Greenhouse Gas Emissions Development Review Processes* (GHG Review Processes), prepared for the County of San Bernardino, August 2011, provide direction for conformity of new development projects to the GHG Plan. The GHG Review Processes determined that projects that do not exceed 3,000 $MTCO_2e$ per year will be consistent with the GHG Plan and determined to have a less than significant individual

and cumulative impact for GHG emissions. For projects that exceed 3,000 $MTCO_2e$ per year of GHG emissions, the GHG Review Processes has determined that implementation of 100 or greater points associated with mitigation measures listed on its Screen Tables, will adequately reduce the proposed project's GHG emissions, when considered with other future development and existing development to allow the County to meet its 2020 target GHG reductions and support reductions in GHG emissions beyond 2020.

As shown in Table M above, the proposed project would create 1,030.49 $MTCO_2e$ per year, which is within 3,000 $MTCO_2e$ per year threshold provided in the GHG Review Processes. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be less than significant.

Level of Significance

Less than significant impact.

8.0 REFERENCES

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APPENDIX A

CalEEMod Model Daily Printouts

San Bernardino Co Chevron C-Store and QSR

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	49.00	Space	1.09	19,600.00	0
Gasoline/Service Station	13.00	Pump	0.80	9,485.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - San Bernardino Co Chevron C-Store and QSR, opening 2017.

Land Use - 13 pump Gasoline/Service Station on 0.8 AC/9,485 SF; 49-space Parking Lot on 1.09 AC/19,600 SF.

Construction Phase - 20 days Demo, 4 days Grading, 100 days Construction, 10 days Paving, 10 days Painting.

Trips and VMT - To account for water trucks, 6 vendor trips added to both Demolition and Grading.

Demolition - 413 tons of building material + 1,015 tons of paving debris = 1,428 tons of demolition debris

Vehicle Trips - Daily trip rate of 162.78 per TIA.

Construction Off-road Equipment Mitigation - Per SCAQMD 403 minimum reqs, water exposure 3 times per day selected.

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Summer

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	100.00
tblLandUse	BuildingSpaceSquareFeet	1,835.27	9,485.00
tblLandUse	LandUseSquareFeet	1,835.27	9,485.00
tblLandUse	LotAcreage	0.44	1.09
tblLandUse	LotAcreage	0.04	0.80
tblProjectCharacteristics	OperationalYear	2018	2017
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	168.56	162.78
tblVehicleTrips	SU_TR	168.56	162.78
tblVehicleTrips	WD_TR	168.56	162.78

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					
2017	9.6851	29.5784	16.8597	0.0326	5.0421	1.6650	5.9230	2.5604	1.5569	3.3710	0.0000	3,310.4735	3,310.4735	0.6628	0.0000	3,327.0431
Maximum	9.6851	29.5784	16.8597	0.0326	5.0421	1.6650	5.9230	2.5604	1.5569	3.3710	0.0000	3,310.4735	3,310.4735	0.6628	0.0000	3,327.0431

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					
2017	9.6851	29.5784	16.8597	0.0326	2.0444	1.6650	2.9253	1.0198	1.5569	1.8304	0.0000	3,310.4735	3,310.4735	0.6628	0.0000	3,327.0431
Maximum	9.6851	29.5784	16.8597	0.0326	2.0444	1.6650	2.9253	1.0198	1.5569	1.8304	0.0000	3,310.4735	3,310.4735	0.6628	0.0000	3,327.0431

	ROG	NOx	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	59.45	0.00	50.61	60.17	0.00	45.70	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	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Energy	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Mobile	4.0324	19.6222	22.0809	0.0605	2.9183	0.0553	2.9736	0.7812	0.0520	0.8332		6,194.2625	6,194.2625	0.5787		6,208.7294
Total	4.2625	19.7052	22.1570	0.0610	2.9183	0.0616	2.9799	0.7812	0.0584	0.8395		6,293.8189	6,293.8189	0.5806	1.8200e-003	6,308.8783

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	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Energy	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Mobile	4.0324	19.6222	22.0809	0.0605	2.9183	0.0553	2.9736	0.7812	0.0520	0.8332		6,194.2625	6,194.2625	0.5787		6,208.7294
Total	4.2625	19.7052	22.1570	0.0610	2.9183	0.0616	2.9799	0.7812	0.0584	0.8395		6,293.8189	6,293.8189	0.5806	1.8200e-003	6,308.8783

	ROG	NOx	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Grading	Grading	6/29/2017	7/4/2017	5	4	
3	Building Construction	Building Construction	7/5/2017	11/21/2017	5	100	
4	Paving	Paving	11/22/2017	12/5/2017	5	10	
5	Architectural Coating	Architectural Coating	12/6/2017	12/19/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.09

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,228; Non-Residential Outdoor: 4,743; Striped Parking Area: 1,176 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Demolition	5	13.00	6.00	129.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	11.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5279	0.0000	1.5279	0.2313	0.0000	0.2313			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404		2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	1.5279	1.6477	3.1755	0.2313	1.5404	1.7717		2,421.4229	2,421.4229	0.6125		2,436.7347

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0529	1.9684	0.2869	5.2200e-003	0.1129	9.7700e-003	0.1227	0.0310	9.3400e-003	0.0403		552.8192	552.8192	0.0311		553.5978
Vendor	0.0277	0.7837	0.1805	1.6600e-003	0.0384	6.4900e-003	0.0449	0.0111	6.2100e-003	0.0173		174.7871	174.7871	0.0126		175.1016
Worker	0.0950	0.0670	0.8349	1.6300e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		161.4444	161.4444	6.5900e-003		161.6091
Total	**0.1756**	**2.8190**	**1.3024**	**8.5100e-003**	**0.2966**	**0.0173**	**0.3139**	**0.0806**	**0.0165**	**0.0971**		**889.0506**	**889.0506**	**0.0503**		**890.3084**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5959	0.0000	0.5959	0.0902	0.0000	0.0902			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347
Total	**2.7625**	**26.7594**	**15.5573**	**0.0241**	**0.5959**	**1.6477**	**2.2435**	**0.0902**	**1.5404**	**1.6306**	**0.0000**	**2,421.4229**	**2,421.4229**	**0.6125**		**2,436.7347**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0529	1.9684	0.2869	5.2200e-003	0.1129	9.7700e-003	0.1227	0.0310	9.3400e-003	0.0403		552.8192	552.8192	0.0311		553.5978
Vendor	0.0277	0.7837	0.1805	1.6600e-003	0.0384	6.4900e-003	0.0449	0.0111	6.2100e-003	0.0173		174.7871	174.7871	0.0126		175.1016
Worker	0.0950	0.0670	0.8349	1.6300e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		161.4444	161.4444	6.5900e-003		161.6091
Total	**0.1756**	**2.8190**	**1.3024**	**8.5100e-003**	**0.2966**	**0.0173**	**0.3139**	**0.0806**	**0.0165**	**0.0971**		**889.0506**	**889.0506**	**0.0503**		**890.3084**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.6023	18.2915	7.0342	0.0141		0.8738	0.8738		0.8039	0.8039		1,444.8958	1,444.8958	0.4427		1,455.9636
Total	**1.6023**	**18.2915**	**7.0342**	**0.0141**	**4.9143**	**0.8738**	**5.7880**	**2.5256**	**0.8039**	**3.3295**		**1,444.8958**	**1,444.8958**	**0.4427**		**1,455.9636**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0277	0.7837	0.1805	1.6600e-003	0.0384	6.4900e-003	0.0449	0.0111	6.2100e-003	0.0173		174.7871	174.7871	0.0126		175.1016
Worker	0.0585	0.0412	0.5138	1.0000e-003	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		99.3504	99.3504	4.0500e-003		99.4517
Total	**0.0862**	**0.8249**	**0.6943**	**2.6600e-003**	**0.1279**	**7.1300e-003**	**0.1350**	**0.0348**	**6.8000e-003**	**0.0416**		**274.1375**	**274.1375**	**0.0166**		**274.5533**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9166	0.0000	1.9166	0.9850	0.0000	0.9850			0.0000			0.0000
Off-Road	1.6023	18.2915	7.0342	0.0141		0.8738	0.8738		0.8039	0.8039	0.0000	1,444.8958	1,444.8958	0.4427		1,455.9636
Total	**1.6023**	**18.2915**	**7.0342**	**0.0141**	**1.9166**	**0.8738**	**2.7903**	**0.9850**	**0.8039**	**1.7888**	**0.0000**	**1,444.8958**	**1,444.8958**	**0.4427**		**1,455.9636**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0277	0.7837	0.1805	1.6600e-003	0.0384	6.4900e-003	0.0449	0.0111	6.2100e-003	0.0173		174.7871	174.7871	0.0126		175.1016
Worker	0.0585	0.0412	0.5138	1.0000e-003	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		99.3504	99.3504	4.0500e-003		99.4517
Total	**0.0862**	**0.8249**	**0.6943**	**2.6600e-003**	**0.1279**	**7.1300e-003**	**0.1350**	**0.0348**	**6.8000e-003**	**0.0416**		**274.1375**	**274.1375**	**0.0166**		**274.5533**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875		2,043.8641	2,043.8641	0.4298		2,054.6085
Total	**2.9653**	**19.2365**	**14.3568**	**0.0220**		**1.2313**	**1.2313**		**1.1875**	**1.1875**		**2,043.8641**	**2,043.8641**	**0.4298**		**2,054.6085**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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	0.0231	0.6530	0.1504	1.3800e-003	0.0320	5.4100e-003	0.0374	9.2200e-003	5.1700e-003	0.0144		145.6559	145.6559	0.0105		145.9180
Worker	0.0804	0.0567	0.7065	1.3800e-003	0.1230	8.9000e-004	0.1238	0.0326	8.2000e-004	0.0334		136.6068	136.6068	5.5800e-003		136.7461
Total	0.1035	0.7097	0.8569	2.7600e-003	0.1550	6.3000e-003	0.1613	0.0418	5.9900e-003	0.0478		282.2627	282.2627	0.0161		282.6641

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875	0.0000	2,043.8641	2,043.8641	0.4298		2,054.6085
Total	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875	0.0000	2,043.8641	2,043.8641	0.4298		2,054.6085

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0231	0.6530	0.1504	1.3800e-003	0.0320	5.4100e-003	0.0374	9.2200e-003	5.1700e-003	0.0144		145.6559	145.6559	0.0105		145.9180
Worker	0.0804	0.0567	0.7065	1.3800e-003	0.1230	8.9000e-004	0.1238	0.0328	8.2000e-004	0.0334		136.6068	136.6068	5.5800e-003		136.7461
Total	**0.1035**	**0.7097**	**0.8569**	**2.7600e-003**	**0.1550**	**6.3000e-003**	**0.1613**	**0.0418**	**5.9900e-003**	**0.0478**		**282.2627**	**282.2627**	**0.0161**		**282.6641**

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2008	12.2685	9.1549	0.0135		0.7417	0.7417		0.6832	0.6832		1,367.8311	1,367.8311	0.4114		1,378.1167
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4864**	**12.2685**	**9.1549**	**0.0135**		**0.7417**	**0.7417**		**0.6832**	**0.6832**		**1,367.8311**	**1,367.8311**	**0.4114**		**1,378.1167**

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0950	0.0670	0.8349	1.6300e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		161.4444	161.4444	6.5900e-003		161.6091
Total	**0.0950**	**0.0670**	**0.8349**	**1.6300e-003**	**0.1453**	**1.0500e-003**	**0.1464**	**0.0385**	**9.7000e-004**	**0.0395**		**161.4444**	**161.4444**	**6.5900e-003**		**161.6091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2008	12.2685	9.1549	0.0135		0.7417	0.7417		0.6832	0.6832	0.0000	1,367.8311	1,367.8311	0.4114		1,378.1167
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4864**	**12.2685**	**9.1549**	**0.0135**		**0.7417**	**0.7417**		**0.6832**	**0.6832**	**0.0000**	**1,367.8311**	**1,367.8311**	**0.4114**		**1,378.1167**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0950	0.0670	0.8349	1.6300e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		161.4444	161.4444	6.5900e-003		161.6091
Total	**0.0950**	**0.0670**	**0.8349**	**1.6300e-003**	**0.1453**	**1.0500e-003**	**0.1464**	**0.0385**	**9.7000e-004**	**0.0395**		**161.4444**	**161.4444**	**6.5900e-003**		**161.6091**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.3381					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.1909
Total	**9.6704**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.1909**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0146	0.0103	0.1285	2.5000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		24.8376	24.8376	1.0100e-003		24.8629
Total	**0.0146**	**0.0103**	**0.1285**	**2.5000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.5000e-004**	**6.0800e-003**		**24.8376**	**24.8376**	**1.0100e-003**		**24.8629**

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	9.3381					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.1909
Total	**9.6704**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.1909**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0146	0.0103	0.1285	2.5000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		24.8376	24.8376	1.0100e-003		24.8629
Total	**0.0146**	**0.0103**	**0.1285**	**2.5000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.5000e-004**	**6.0800e-003**		**24.8376**	**24.8376**	**1.0100e-003**		**24.8629**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.0324	19.6222	22.0809	0.0605	2.9183	0.0553	2.9736	0.7812	0.0520	0.8332		6,194.2625	6,194.2625	0.5787		6,208.7294
Unmitigated	4.0324	19.6222	22.0809	0.0605	2.9183	0.0553	2.9736	0.7812	0.0520	0.8332		6,194.2625	6,194.2625	0.5787		6,208.7294

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	2,116.14	2,116.14	2116.14	1,368,696	1,368,696
Parking Lot	0.00	0.00	0.00		
Total	2,116.14	2,116.14	2,116.14	1,368,696	1,368,696

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
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351
Gasoline/Service Station	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351

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	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
NaturalGas Unmitigated	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344

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					
Gasoline/Service Station	846.114	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.1200e-003**	**0.0830**	**0.0697**	**5.0000e-004**		**6.3000e-003**	**6.3000e-003**		**6.3000e-003**	**6.3000e-003**		**99.5428**	**99.5428**	**1.9100e-003**	**1.8200e-003**	**100.1344**

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					
Gasoline/Service Station	0.846114	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**9.1200e-003**	**0.0830**	**0.0697**	**5.0000e-004**		**6.3000e-003**	**6.3000e-003**		**6.3000e-003**	**6.3000e-003**		**99.5428**	**99.5428**	**1.9100e-003**	**1.8200e-003**	**100.1344**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Unmitigated	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

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	0.0256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Total	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Total	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

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

San Bernardino Co Chevron C-Store and QSR

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	49.00	Space	1.09	19,600.00	0
Gasoline/Service Station	13.00	Pump	0.80	9,485.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - San Bernardino Co Chevron C-Store and QSR, opening 2017.

Land Use - 13 pump Gasoline/Service Station on 0.8 AC/9,485 SF; 49-space Parking Lot on 1.09 AC/19,600 SF.

Construction Phase - 20 days Demo, 4 days Grading, 100 days Construction, 10 days Paving, 10 days Painting.

Trips and VMT - To account for water trucks, 6 vendor trips added to both Demolition and Grading.

Demolition - 413 tons of building material + 1,015 tons of paving debris = 1,428 tons of demolition debris

Vehicle Trips - Daily trip rate of 162.78 per TIA.

Construction Off-road Equipment Mitigation - Per SCAQMD 403 minimum reqs, water exposure 3 times per day selected.

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	100.00
tblLandUse	BuildingSpaceSquareFeet	1,835.27	9,485.00
tblLandUse	LandUseSquareFeet	1,835.27	9,485.00
tblLandUse	LotAcreage	0.44	1.09
tblLandUse	LotAcreage	0.04	0.80
tblProjectCharacteristics	OperationalYear	2018	2017
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	168.56	162.78
tblVehicleTrips	SU_TR	168.56	162.78
tblVehicleTrips	WD_TR	168.56	162.78

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					
2017	9.6850	29.5985	16.7775	0.0323	5.0421	1.6652	5.9231	2.5604	1.5571	3.3711	0.0000	3,273.7170	3,273.7170	0.6657	0.0000	3,290.3588
Maximum	**9.6850**	**29.5985**	**16.7775**	**0.0323**	**5.0421**	**1.6652**	**5.9231**	**2.5604**	**1.5571**	**3.3711**	**0.0000**	**3,273.7170**	**3,273.7170**	**0.6657**	**0.0000**	**3,290.3588**

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					
2017	9.6850	29.5985	16.7775	0.0323	2.0444	1.6652	2.9254	1.0198	1.5571	1.8305	0.0000	3,273.7170	3,273.7170	0.6657	0.0000	3,290.3588
Maximum	**9.6850**	**29.5985**	**16.7775**	**0.0323**	**2.0444**	**1.6652**	**2.9254**	**1.0198**	**1.5571**	**1.8305**	**0.0000**	**3,273.7170**	**3,273.7170**	**0.6657**	**0.0000**	**3,290.3588**

	ROG	NOx	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**	**59.45**	**0.00**	**50.61**	**60.17**	**0.00**	**45.70**	**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	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Energy	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Mobile	3.4293	19.2021	22.3313	0.0551	2.9183	0.0573	2.9756	0.7812	0.0540	0.8351		5,641.5616	5,641.5616	0.6255		5,657.1981
Total	3.6594	19.2852	22.4075	0.0556	2.9183	0.0636	2.9819	0.7812	0.0603	0.8414		5,741.1179	5,741.1179	0.6274	1.8200e-003	5,757.3470

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	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Energy	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Mobile	3.4293	19.2021	22.3313	0.0551	2.9183	0.0573	2.9756	0.7812	0.0540	0.8351		5,641.5616	5,641.5616	0.6255		5,657.1981
Total	3.6594	19.2852	22.4075	0.0556	2.9183	0.0636	2.9819	0.7812	0.0603	0.8414		5,741.1179	5,741.1179	0.6274	1.8200e-003	5,757.3470

	ROG	NOx	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Grading	Grading	6/29/2017	7/4/2017	5	4	
3	Building Construction	Building Construction	7/5/2017	11/21/2017	5	100	
4	Paving	Paving	11/22/2017	12/5/2017	5	10	
5	Architectural Coating	Architectural Coating	12/6/2017	12/19/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.09

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,228; Non-Residential Outdoor: 4,743; Striped Parking Area: 1,176 (Architectural Coating – sqft)

OffRoad Equipment

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Demolition	5	13.00	6.00	129.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	11.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5279	0.0000	1.5279	0.2313	0.0000	0.2313			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404		2,421.4229	2,421.4229	0.6125		2,436.7347
Total	2.7625	26.7594	15.5573	0.0241	1.5279	1.6477	3.1755	0.2313	1.5404	1.7717		2,421.4229	2,421.4229	0.6125		2,436.7347

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0550	1.9867	0.3261	5.0900e-003	0.1129	9.9000e-003	0.1228	0.0310	9.4700e-003	0.0404		539.1411	539.1411	0.0336		539.9817
Vendor	0.0289	0.7817	0.2030	1.6000e-003	0.0384	6.5700e-003	0.0450	0.0111	6.2800e-003	0.0174		168.2819	168.2819	0.0138		168.6280
Worker	0.0947	0.0707	0.6912	1.4800e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		144.8711	144.8711	5.8100e-003		145.0164
Total	**0.1786**	**2.8391**	**1.2202**	**8.1500e-003**	**0.2966**	**0.0175**	**0.3142**	**0.0806**	**0.0167**	**0.0973**		**852.2941**	**852.2941**	**0.0532**		**853.6241**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5959	0.0000	0.5959	0.0902	0.0000	0.0902			0.0000			0.0000
Off-Road	2.7625	26.7594	15.5573	0.0241		1.6477	1.6477		1.5404	1.5404	0.0000	2,421.4229	2,421.4229	0.6125		2,436.7347
Total	**2.7625**	**26.7594**	**15.5573**	**0.0241**	**0.5959**	**1.6477**	**2.2435**	**0.0902**	**1.5404**	**1.6306**	**0.0000**	**2,421.4229**	**2,421.4229**	**0.6125**		**2,436.7347**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0550	1.9867	0.3261	5.0900e-003	0.1129	9.9000e-003	0.1228	0.0310	9.4700e-003	0.0404		539.1411	539.1411	0.0336		539.9817
Vendor	0.0289	0.7817	0.2030	1.6000e-003	0.0384	6.5700e-003	0.0450	0.0111	6.2800e-003	0.0174		168.2819	168.2819	0.0138		168.6260
Worker	0.0947	0.0707	0.6912	1.4600e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		144.8711	144.8711	5.8100e-003		145.0164
Total	**0.1786**	**2.8391**	**1.2202**	**8.1500e-003**	**0.2966**	**0.0175**	**0.3142**	**0.0806**	**0.0167**	**0.0973**		**852.2941**	**852.2941**	**0.0532**		**853.6241**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.6023	18.2915	7.0342	0.0141		0.8738	0.8738		0.8039	0.8039		1,444.8958	1,444.8958	0.4427		1,455.9636
Total	**1.6023**	**18.2915**	**7.0342**	**0.0141**	**4.9143**	**0.8738**	**5.7880**	**2.5256**	**0.8039**	**3.3295**		**1,444.8958**	**1,444.8958**	**0.4427**		**1,455.9636**

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Winter

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0289	0.7817	0.2030	1.6000e-003	0.0384	6.5700e-003	0.0450	0.0111	6.2800e-003	0.0174		168.2819	168.2819	0.0138		168.6260
Worker	0.0583	0.0435	0.4253	9.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		89.1514	89.1514	3.5800e-003		89.2409
Total	**0.0872**	**0.8252**	**0.6283**	**2.5000e-003**	**0.1279**	**7.2100e-003**	**0.1351**	**0.0348**	**6.8700e-003**	**0.0417**		**257.4333**	**257.4333**	**0.0173**		**257.8668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9166	0.0000	1.9166	0.9850	0.0000	0.9850			0.0000			0.0000
Off-Road	1.6023	18.2915	7.0342	0.0141		0.8738	0.8738		0.8039	0.8039	0.0000	1,444.8958	1,444.8958	0.4427		1,455.9636
Total	**1.6023**	**18.2915**	**7.0342**	**0.0141**	**1.9166**	**0.8738**	**2.7903**	**0.9850**	**0.8039**	**1.7888**	**0.0000**	**1,444.8958**	**1,444.8958**	**0.4427**		**1,455.9636**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0289	0.7817	0.2030	1.6000e-003	0.0384	6.5700e-003	0.0450	0.0111	6.2800e-003	0.0174		168.2819	168.2819	0.0138		168.6260
Worker	0.0583	0.0435	0.4253	9.0000e-004	0.0894	6.4000e-004	0.0901	0.0237	5.9000e-004	0.0243		89.1514	89.1514	3.5800e-003		89.2409
Total	**0.0872**	**0.8252**	**0.6283**	**2.5000e-003**	**0.1279**	**7.2100e-003**	**0.1351**	**0.0348**	**6.8700e-003**	**0.0417**		**257.4333**	**257.4333**	**0.0173**		**257.8668**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875		2,043.8641	2,043.8641	0.4298		2,054.6085
Total	**2.9653**	**19.2365**	**14.3568**	**0.0220**		**1.2313**	**1.2313**		**1.1875**	**1.1875**		**2,043.8641**	**2,043.8641**	**0.4298**		**2,054.6085**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0241	0.6514	0.1692	1.3300e-003	0.0320	5.4700e-003	0.0375	9.2200e-003	5.2400e-003	0.0145		140.2349	140.2349	0.0115		140.5216
Worker	0.0801	0.0598	0.5848	1.2300e-003	0.1230	8.9000e-004	0.1238	0.0326	8.2000e-004	0.0334		122.5832	122.5832	4.9200e-003		122.7062
Total	**0.1042**	**0.7112**	**0.7540**	**2.5600e-003**	**0.1550**	**6.3600e-003**	**0.1613**	**0.0418**	**6.0600e-003**	**0.0479**		**262.8181**	**262.8181**	**0.0164**		**263.2278**

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	2.9653	19.2365	14.3568	0.0220		1.2313	1.2313		1.1875	1.1875	0.0000	2,043.8641	2,043.8641	0.4298		2,054.6085
Total	**2.9653**	**19.2365**	**14.3568**	**0.0220**		**1.2313**	**1.2313**		**1.1875**	**1.1875**	**0.0000**	**2,043.8641**	**2,043.8641**	**0.4298**		**2,054.6085**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0241	0.6514	0.1692	1.3300e-003	0.0320	5.4700e-003	0.0375	9.2200e-003	5.2400e-003	0.0145		140.2349	140.2349	0.0115		140.5216
Worker	0.0801	0.0598	0.5848	1.2300e-003	0.1230	8.9000e-004	0.1238	0.0326	8.2000e-004	0.0334		122.5832	122.5832	4.9200e-003		122.7062
Total	0.1042	0.7112	0.7540	2.5600e-003	0.1550	6.3600e-003	0.1613	0.0418	6.0600e-003	0.0479		262.8181	262.8181	0.0164		263.2278

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2008	12.2685	9.1549	0.0135		0.7417	0.7417		0.6832	0.6832		1,367.8311	1,367.8311	0.4114		1,378.1167
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4864	12.2685	9.1549	0.0135		0.7417	0.7417		0.6832	0.6832		1,367.8311	1,367.8311	0.4114		1,378.1167

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0947	0.0707	0.6912	1.4600e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		144.8711	144.8711	5.8100e-003		145.0164
Total	**0.0947**	**0.0707**	**0.6912**	**1.4600e-003**	**0.1453**	**1.0500e-003**	**0.1464**	**0.0385**	**9.7000e-004**	**0.0395**		**144.8711**	**144.8711**	**5.8100e-003**		145.0164

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2008	12.2685	9.1549	0.0135		0.7417	0.7417		0.6832	0.6832	0.0000	1,367.8311	1,367.8311	0.4114		1,378.1167
Paving	0.2856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4864**	**12.2685**	**9.1549**	**0.0135**		**0.7417**	**0.7417**		**0.6832**	**0.6832**	**0.0000**	**1,367.8311**	**1,367.8311**	**0.4114**		**1,378.1167**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0947	0.0707	0.6912	1.4600e-003	0.1453	1.0500e-003	0.1464	0.0385	9.7000e-004	0.0395		144.8711	144.8711	5.8100e-003		145.0164
Total	**0.0947**	**0.0707**	**0.6912**	**1.4600e-003**	**0.1453**	**1.0500e-003**	**0.1464**	**0.0385**	**9.7000e-004**	**0.0395**		**144.8711**	**144.8711**	**5.8100e-003**		**145.0164**

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.3381					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.1909
Total	**9.6704**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.1909**

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0146	0.0109	0.1063	2.2000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.2879	22.2879	8.9000e-004		22.3102
Total	**0.0146**	**0.0109**	**0.1063**	**2.2000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.5000e-004**	**6.0800e-003**		**22.2879**	**22.2879**	**8.9000e-004**		**22.3102**

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	9.3381					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.1909
Total	**9.6704**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.1909**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0146	0.0109	0.1063	2.2000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.2879	22.2879	8.9000e-004		22.3102
Total	**0.0146**	**0.0109**	**0.1063**	**2.2000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.5000e-004**	**6.0800e-003**		**22.2879**	**22.2879**	**8.9000e-004**		**22.3102**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4293	19.2021	22.3313	0.0551	2.9183	0.0573	2.9756	0.7812	0.0540	0.8351		5,641.5616	5,641.5616	0.6255		5,657.1981
Unmitigated	3.4293	19.2021	22.3313	0.0551	2.9183	0.0573	2.9756	0.7812	0.0540	0.8351		5,641.5616	5,641.5616	0.6255		5,657.1981

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	2,116.14	2,116.14	2116.14	1,368,696	1,368,696
Parking Lot	0.00	0.00	0.00		
Total	2,116.14	2,116.14	2,116.14	1,368,696	1,368,696

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
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351
Gasoline/Service Station	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351

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	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
NaturalGas Unmitigated	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344

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					
Gasoline/Service Station	846.114	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344

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					
Gasoline/Service Station	0.846114	9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		9.1200e-003	0.0830	0.0697	5.0000e-004		6.3000e-003	6.3000e-003		6.3000e-003	6.3000e-003		99.5428	99.5428	1.9100e-003	1.8200e-003	100.1344

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Unmitigated	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

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	0.0256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Total	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0256					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2000e-004	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145
Total	0.2210	6.0000e-005	6.4500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0136	0.0136	4.0000e-005		0.0145

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

APPENDIX B

CalEEMod Model Annual Printouts

San Bernardino Co Chevron C-Store and QSR

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	49.00	Space	1.09	19,600.00	0
Gasoline/Service Station	13.00	Pump	0.80	9,485.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - San Bernardino Co Chevron C-Store and QSR, opening 2017.

Land Use - 13 pump Gasoline/Service Station on 0.8 AC/9,485 SF; 49-space Parking Lot on 1.09 AC/19,600 SF.

Construction Phase - 20 days Demo, 4 days Grading, 100 days Construction, 10 days Paving, 10 days Painting.

Trips and VMT - To account for water trucks, 6 vendor trips added to both Demolition and Grading.

Demolition - 413 tons of building material + 1,015 tons of paving debris = 1,428 tons of demolition debris

Vehicle Trips - Daily trip rate of 162.78 per TIA.

Construction Off-road Equipment Mitigation - Per SCAQMD 403 minimum reqs, water exposure 3 times per day selected.

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	200.00	100.00
tblLandUse	BuildingSpaceSquareFeet	1,835.27	9,485.00
tblLandUse	LandUseSquareFeet	1,835.27	9,485.00
tblLandUse	LotAcreage	0.44	1.09
tblLandUse	LotAcreage	0.04	0.80
tblProjectCharacteristics	OperationalYear	2018	2017
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	168.56	162.78
tblVehicleTrips	SU_TR	168.56	162.78
tblVehicleTrips	WD_TR	168.56	162.78

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					
2017	0.2420	1.4058	0.9991	1.6800e-003	0.0367	0.0849	0.1216	0.0105	0.0812	0.0917	0.0000	146.0820	146.0820	0.0291	0.0000	146.8097
Maximum	**0.2420**	**1.4058**	**0.9991**	**1.6800e-003**	**0.0367**	**0.0849**	**0.1216**	**0.0105**	**0.0812**	**0.0917**	**0.0000**	**146.0820**	**146.0820**	**0.0291**	**0.0000**	**146.8097**

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					
2017	0.2420	1.4058	0.9991	1.6800e-003	0.0214	0.0849	0.1063	6.0100e-003	0.0812	0.0872	0.0000	146.0819	146.0819	0.0291	0.0000	146.8096
Maximum	**0.2420**	**1.4058**	**0.9991**	**1.6800e-003**	**0.0214**	**0.0849**	**0.1063**	**6.0100e-003**	**0.0812**	**0.0872**	**0.0000**	**146.0819**	**146.0819**	**0.0291**	**0.0000**	**146.8096**

	ROG	NOx	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**	**41.72**	**0.00**	**12.60**	**42.76**	**0.00**	**4.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2017	8-31-2017	0.8465	0.8465
2	9-1-2017	9-30-2017	0.2466	0.2466
		Highest	0.8465	0.8465

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	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003
Energy	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	53.2248	53.2248	1.8300e-003	6.2000e-004	53.4542
Mobile	0.5979	3.5781	4.1060	0.0104	0.5212	0.0102	0.5314	0.1397	9.6100e-003	0.1493	0.0000	964.8062	964.8062	0.0993	0.0000	967.2880
Waste						0.0000	0.0000		0.0000	0.0000	1.4230	0.0000	1.4230	0.0841	0.0000	3.5253
Water						0.0000	0.0000		0.0000	0.0000	0.0548	1.0910	1.1457	5.6700e-003	1.4000e-004	1.3299
Total	0.6399	3.5932	4.1196	0.0105	0.5212	0.0114	0.5326	0.1397	0.0108	0.1505	1.4778	1,019.1234	1,020.6012	0.1909	7.6000e-004	1,025.5990

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	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003
Energy	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	53.2248	53.2248	1.8300e-003	6.2000e-004	53.4542
Mobile	0.5979	3.5781	4.1060	0.0104	0.5212	0.0102	0.5314	0.1397	9.6100e-003	0.1493	0.0000	964.8062	964.8062	0.0993	0.0000	967.2880
Waste						0.0000	0.0000		0.0000	0.0000	1.4230	0.0000	1.4230	0.0841	0.0000	3.5253
Water						0.0000	0.0000		0.0000	0.0000	0.0548	1.0910	1.1457	5.6700e-003	1.4000e-004	1.3299
Total	0.6399	3.5932	4.1196	0.0105	0.5212	0.0114	0.5326	0.1397	0.0108	0.1505	1.4778	1,019.1234	1,020.6012	0.1909	7.6000e-004	1,025.5990

	ROG	NOx	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

3.0 Construction Detail

Construction Phase

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Grading	Grading	6/29/2017	7/4/2017	5	4	
3	Building Construction	Building Construction	7/5/2017	11/21/2017	5	100	
4	Paving	Paving	11/22/2017	12/5/2017	5	10	
5	Architectural Coating	Architectural Coating	12/6/2017	12/19/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.09

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,228; Non-Residential Outdoor: 4,743; Striped Parking Area: 1,176 (Architectural Coating – sqft)

OffRoad Equipment

San Bernardino Co Chevron C-Store and QSR - San Bernardino-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Demolition	5	13.00	6.00	129.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	11.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0153	0.0000	0.0153	2.3100e-003	0.0000	2.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0276	0.2676	0.1556	2.4000e-004		0.0165	0.0165		0.0154	0.0154	0.0000	21.9668	21.9668	5.5600e-003	0.0000	22.1057
Total	**0.0276**	**0.2676**	**0.1556**	**2.4000e-004**	**0.0153**	**0.0165**	**0.0318**	**2.3100e-003**	**0.0154**	**0.0177**	**0.0000**	**21.9668**	**21.9668**	**5.5600e-003**	**0.0000**	**22.1057**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0203	3.0400e-003	5.0000e-005	1.1100e-003	1.0000e-004	1.2100e-003	3.0000e-004	9.0000e-005	4.0000e-004	0.0000	4.9630	4.9630	2.9000e-004	0.0000	4.9703
Vendor	2.8000e-004	7.9800e-003	1.9300e-003	2.0000e-005	3.8000e-004	7.0000e-005	4.4000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.5609	1.5609	1.2000e-004	0.0000	1.5638
Worker	8.6000e-004	7.4000e-004	7.2600e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3430	1.3430	5.0000e-005	0.0000	1.3443
Total	**1.6800e-003**	**0.0290**	**0.0122**	**8.0000e-005**	**2.9200e-003**	**1.8000e-004**	**3.0900e-003**	**7.9000e-004**	**1.6000e-004**	**9.6000e-004**	**0.0000**	**7.8668**	**7.8668**	**4.6000e-004**	**0.0000**	**7.8785**

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					5.9600e-003	0.0000	5.9600e-003	9.0000e-004	0.0000	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0276	0.2676	0.1556	2.4000e-004		0.0165	0.0165		0.0154	0.0154	0.0000	21.9668	21.9668	5.5600e-003	0.0000	22.1057
Total	**0.0276**	**0.2676**	**0.1556**	**2.4000e-004**	**5.9600e-003**	**0.0165**	**0.0224**	**9.0000e-004**	**0.0154**	**0.0163**	**0.0000**	**21.9668**	**21.9668**	**5.5600e-003**	**0.0000**	**22.1057**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0203	3.0400e-003	5.0000e-005	1.1100e-003	1.0000e-004	1.2100e-003	3.0000e-004	9.0000e-005	4.0000e-004	0.0000	4.9630	4.9630	2.9000e-004	0.0000	4.9703
Vendor	2.8000e-004	7.9800e-003	1.9300e-003	2.0000e-005	3.8000e-004	7.0000e-005	4.4000e-004	1.1000e-004	6.0000e-005	1.7000e-004	0.0000	1.5609	1.5609	1.2000e-004	0.0000	1.5638
Worker	8.6000e-004	7.4000e-004	7.2600e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3430	1.3430	5.0000e-005	0.0000	1.3443
Total	1.6800e-003	0.0290	0.0122	8.0000e-005	2.9200e-003	1.8000e-004	3.0900e-003	7.9000e-004	1.6000e-004	9.6000e-004	0.0000	7.8668	7.8668	4.6000e-004	0.0000	7.8785

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-003	0.0366	0.0141	3.0000e-005		1.7500e-003	1.7500e-003		1.6100e-003	1.6100e-003	0.0000	2.6216	2.6216	8.0000e-004	0.0000	2.6417
Total	3.2000e-003	0.0366	0.0141	3.0000e-005	9.8300e-003	1.7500e-003	0.0116	5.0500e-003	1.6100e-003	6.6600e-003	0.0000	2.6216	2.6216	8.0000e-004	0.0000	2.6417

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.6000e-003	3.9000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3122	0.3122	2.0000e-005	0.0000	0.3128
Worker	1.1000e-004	9.0000e-005	8.9000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1653	0.1653	1.0000e-005	0.0000	0.1655
Total	1.7000e-004	1.6900e-003	1.2800e-003	0.0000	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.4775	0.4775	3.0000e-005	0.0000	0.4782

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					3.8300e-003	0.0000	3.8300e-003	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-003	0.0366	0.0141	3.0000e-005		1.7500e-003	1.7500e-003		1.6100e-003	1.6100e-003	0.0000	2.6216	2.6216	8.0000e-004	0.0000	2.6417
Total	3.2000e-003	0.0366	0.0141	3.0000e-005	3.8300e-003	1.7500e-003	5.5800e-003	1.9700e-003	1.6100e-003	3.5800e-003	0.0000	2.6216	2.6216	8.0000e-004	0.0000	2.6417

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.6000e-003	3.9000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3122	0.3122	2.0000e-005	0.0000	0.3128
Worker	1.1000e-004	9.0000e-005	8.9000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1653	0.1653	1.0000e-005	0.0000	0.1655
Total	**1.7000e-004**	**1.6900e-003**	**1.2800e-003**	**0.0000**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**7.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.4775**	**0.4775**	**3.0000e-005**	**0.0000**	**0.4782**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1483	0.9618	0.7178	1.1000e-003		0.0616	0.0616		0.0594	0.0594	0.0000	92.7081	92.7081	0.0195	0.0000	93.1955
Total	**0.1483**	**0.9618**	**0.7178**	**1.1000e-003**		**0.0616**	**0.0616**		**0.0594**	**0.0594**	**0.0000**	**92.7081**	**92.7081**	**0.0195**	**0.0000**	**93.1955**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1700e-003	0.0332	8.0300e-003	7.0000e-005	1.5800e-003	2.7000e-004	1.8500e-003	4.5000e-004	2.6000e-004	7.1000e-004	0.0000	6.5036	6.5036	5.0000e-004	0.0000	6.5160
Worker	3.6500e-003	3.1500e-003	0.0307	6.0000e-005	6.0300e-003	4.0000e-005	6.0700e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.6819	5.6819	2.3000e-004	0.0000	5.6876
Total	**4.8200e-003**	**0.0364**	**0.0388**	**1.3000e-004**	**7.6100e-003**	**3.1000e-004**	**7.9200e-003**	**2.0500e-003**	**3.0000e-004**	**2.3500e-003**	**0.0000**	**12.1854**	**12.1854**	**7.3000e-004**	**0.0000**	**12.2036**

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	0.1483	0.9618	0.7178	1.1000e-003		0.0616	0.0616		0.0594	0.0594	0.0000	92.7080	92.7080	0.0195	0.0000	93.1954
Total	**0.1483**	**0.9618**	**0.7178**	**1.1000e-003**		**0.0616**	**0.0616**		**0.0594**	**0.0594**	**0.0000**	**92.7080**	**92.7080**	**0.0195**	**0.0000**	**93.1954**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1700e-003	0.0332	8.0300e-003	7.0000e-005	1.5800e-003	2.7000e-004	1.8500e-003	4.5000e-004	2.6000e-004	7.1000e-004	0.0000	6.5036	6.5036	5.0000e-004	0.0000	6.5160
Worker	3.6500e-003	3.1500e-003	0.0307	6.0000e-005	6.0300e-003	4.0000e-005	6.0700e-003	1.6000e-003	4.0000e-005	1.6400e-003	0.0000	5.6819	5.6819	2.3000e-004	0.0000	5.6876
Total	4.8200e-003	0.0364	0.0388	1.3000e-004	7.6100e-003	3.1000e-004	7.9200e-003	2.0500e-003	3.0000e-004	2.3500e-003	0.0000	12.1854	12.1854	7.3000e-004	0.0000	12.2036

3.5 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.0000e-003	0.0613	0.0458	7.0000e-005		3.7100e-003	3.7100e-003		3.4200e-003	3.4200e-003	0.0000	6.2044	6.2044	1.8700e-003	0.0000	6.2510
Paving	1.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.4300e-003	0.0613	0.0458	7.0000e-005		3.7100e-003	3.7100e-003		3.4200e-003	3.4200e-003	0.0000	6.2044	6.2044	1.8700e-003	0.0000	6.2510

3.5 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.7000e-004	3.6300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6715	0.6715	3.0000e-005	0.0000	0.6722
Total	**4.3000e-004**	**3.7000e-004**	**3.6300e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6715**	**0.6715**	**3.0000e-005**	**0.0000**	**0.6722**

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	6.0000e-003	0.0613	0.0458	7.0000e-005		3.7100e-003	3.7100e-003		3.4200e-003	3.4200e-003	0.0000	6.2044	6.2044	1.8700e-003	0.0000	6.2510
Paving	1.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.4300e-003**	**0.0613**	**0.0458**	**7.0000e-005**		**3.7100e-003**	**3.7100e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**6.2044**	**6.2044**	**1.8700e-003**	**0.0000**	**6.2510**

3.5 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.7000e-004	3.6300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6715	0.6715	3.0000e-005	0.0000	0.6722
Total	4.3000e-004	3.7000e-004	3.6300e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6715	0.6715	3.0000e-005	0.0000	0.6722

3.6 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0467					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2800
Total	0.0484	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2800

3.6 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	6.0000e-005	5.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1033	0.1033	0.0000	0.0000	0.1034
Total	**7.0000e-005**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1033**	**0.1033**	**0.0000**	**0.0000**	**0.1034**

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	0.0467					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2800
Total	**0.0484**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2800**

3.6 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	6.0000e-005	5.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1033	0.1033	0.0000	0.0000	0.1034
Total	**7.0000e-005**	**6.0000e-005**	**5.6000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1033**	**0.1033**	**0.0000**	**0.0000**	**0.1034**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5979	3.5781	4.1060	0.0104	0.5212	0.0102	0.5314	0.1397	9.6100e-003	0.1493	0.0000	964.8062	964.8062	0.0993	0.0000	967.2880
Unmitigated	0.5979	3.5781	4.1060	0.0104	0.5212	0.0102	0.5314	0.1397	9.6100e-003	0.1493	0.0000	964.8062	964.8062	0.0993	0.0000	967.2880

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Gasoline/Service Station	2,116.14	2,116.14	2116.14	1,368,696	1,368,696
Parking Lot	0.00	0.00	0.00		
Total	2,116.14	2,116.14	2,116.14	1,368,696	1,368,696

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
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351
Gasoline/Service Station	0.530593	0.041525	0.177860	0.135679	0.022741	0.006161	0.016208	0.057365	0.001302	0.001846	0.006534	0.000835	0.001351

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	36.7444	36.7444	1.5200e-003	3.1000e-004	36.8758
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.7444	36.7444	1.5200e-003	3.1000e-004	36.8758
NaturalGas Mitigated	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784
NaturalGas Unmitigated	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784

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					
Gasoline/Service Station	308832	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784

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					
Gasoline/Service Station	308832	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4804	16.4804	3.2000e-004	3.0000e-004	16.5784

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Gasoline/Service Station	98074.9	31.2488	1.2900e-003	2.7000e-004	31.3606
Parking Lot	17248	5.4956	2.3000e-004	5.0000e-005	5.5152
Total		**36.7443**	**1.5200e-003**	**3.2000e-004**	**36.8758**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Gasoline/Service Station	98074.9	31.2488	1.2900e-003	2.7000e-004	31.3606
Parking Lot	17248	5.4956	2.3000e-004	5.0000e-005	5.5152
Total		**36.7443**	**1.5200e-003**	**3.2000e-004**	**36.8758**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003
Unmitigated	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-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	4.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003
Total	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003
Total	0.0403	1.0000e-005	8.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5400e-003	1.5400e-003	0.0000	0.0000	1.6500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.1457	5.6700e-003	1.4000e-004	1.3299
Unmitigated	1.1457	5.6700e-003	1.4000e-004	1.3299

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Gasoline/Service Station	0.172665 / 0.105827	1.1457	5.6700e-003	1.4000e-004	1.3299
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		1.1457	5.6700e-003	1.4000e-004	1.3299

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Gasoline/Service Station	0.172665 / 0.105827	1.1457	5.6700e-003	1.4000e-004	1.3299
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.1457**	**5.6700e-003**	**1.4000e-004**	**1.3299**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.4230	0.0841	0.0000	3.5253
Unmitigated	1.4230	0.0841	0.0000	3.5253

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Gasoline/Service Station	7.01	1.4230	0.0841	0.0000	3.5253
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		1.4230	0.0841	0.0000	3.5253

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Gasoline/Service Station	7.01	1.4230	0.0841	0.0000	3.5253
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		1.4230	0.0841	0.0000	3.5253

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