MGA CAMPUS PROJECT

AIR QUALITY, GREENHOUSE GAS, AND NOISE IMPACT REPORT

Prepared for

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1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. has completed an air quality, greenhouse gas, and noise and vibration impact analysis for the MGA Campus Project (proposed project). Key findings are shown in Table 1-1.

TABLE 1-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures	Significance After Mitigation
AIR QUALITY		
Would the project conflict with or obstruct implementation of applicable air quality plan of the South Coast AQMD? **Less-Than-Significant Impact**	None Required	Less than Significant
Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? **Less-Than-Significant Impact With Mitigation Related to Regional Construction VOC Emissions**	**MM-AQ-1**: The construction contractor shall use architectural coatings with a volatile organic compound content of 30 grams per liter or less for all interior surfaces and all exterior surfaces in order to minimize VOC emissions from painting.	Less than Significant (Construction)
Would the project 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)? **Less-Than-Significant Impact With Mitigation Related to Regional Construction VOC Emissions**	Refer to **MM-AQ1**	Less than Significant (Construction)
Would the project expose sensitive receptors to substantial pollutant concentrations? **Less-Than-Significant Impact**	None Required	Less than Significant
Would the project create objectionable odors affecting a substantial number of people? **Less-Than-Significant Impact**	None Required	Less than Significant
GREENHOUSE GASES		
Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? **Less-Than-Significant Impact**	None Required	Less than Significant
Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? **Less-Than-Significant Impact With Mitigation Related to Regional Construction VOC Emissions**	None Required	Less than Significant

TABLE 1-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Mitigation Measures	Significance After Mitigation
NOISE		
Would the proposed project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? **Less-Than-Significant Impact With Mitigation Related to Land Use Compatibility**	**MM-N-1**: Materials used in the construction of residential units shall be capable of achieving an exterior-to-interior noise attenuation level of 32 dBA. Such materials may include double-glazed windows.	Less than Significant
Would the proposed project expose people to or generate excessive ground-borne vibration or ground-borne noise levels? **Less-Than-Significant Impact**	None Required	Less than Significant
Would the proposed project create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **Less-Than-Significant Impact**	None Required	Less than Significant
Would the proposed project create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? **Less-Than-Significant Impact**	None Required	Less than Significant

SOURCE: TAHA, 2014.

2.0 INTRODUCTION

2.1 PURPOSE OF REPORT

The purpose of this report is to evaluate the potential air quality, greenhouse gas, and noise and vibration impacts associated with the MGA Campus Project. Air quality, greenhouse gas, and noise and vibration impacts have been analyzed for construction and operation of the proposed project. Mitigation measures for air quality and noise and vibration are recommended, where necessary.

2.2 PROJECT DESCRIPTION

The site consists of a single 23.6-acre parcel bounded by Winnetka Avenue on the west, Prairie Street on the north, existing light industrial/corporate office park uses on the east and a Southern Pacific Railroad right-of-way on the south. A City of Los Angeles Flood Control easement also runs along the western and southern perimeter of the site, ranging from 30 to 45 feet along Winnetka Avenue, and approximately 45-feet along the southern border of the site. Exclusive access to the site is currently provided off Prairie Street.

The project site is located in the Chatsworth-Porter Ranch community of the City of Los Angeles. A former printing facility for the Los Angeles Times occupies the central portion of the site, and is a multi-story (64 feet) building with 255,815 square feet of floor area. Most of the project site (970,104 square feet) is currently zoned MR2-1, while 57,815 square feet along Winnetka Avenue is zoned P-1. The property is designated Light industrial by the Chatsworth-Porter Ranch Community Plan and is not located within any Specific Plan area. Residential uses are not allowed by the existing Community Plan designation/zoning.

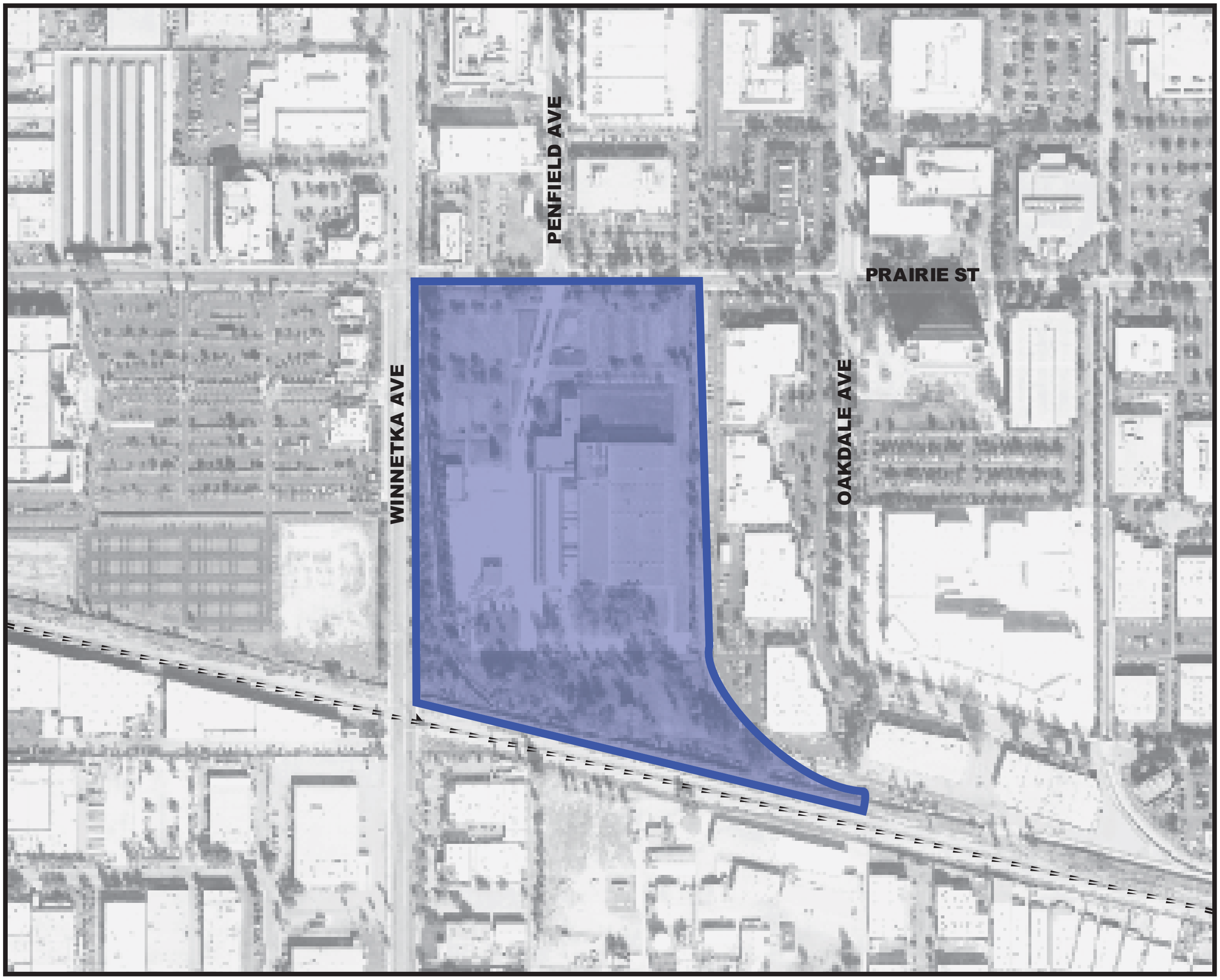
The proposed project would develop a corporate and residential mixed-use development totaling 1,212,515 million square feet of floor area (Figure 2-1). The project would consist of two primary components: (1) adaptive re-use and rehabilitation of the existing industrial/office building for MGA Entertainment, Inc. corporate headquarters, light industrial functions and new creative office tenants and (2) development of 700 rental housing units in four main residential buildings with extensive shared recreational campus amenities (3) and approximately 11,000 square feet of ancillary, campus and neighborhood serving retail uses and 3,000 square feet of restaurant uses. All uses would be integrated into a campus like setting, facilitating live-work opportunities for corporate employees and providing amenities for use by employees, residents and visitors. A total of 1,467 parking spaces would be provided in structured parking. Primary vehicular access would be from Winnetka Avenue and would involve construction of a bridge over the flood control easement to provide a driveway from the street into the property. Two driveways would be provided off of Prairie Street. An ancillary (vacant) single-story 5,060 square foot structure, as well as a former gas station would be demolished to accommodate the project.

Sustainability Features

Effective January 1, 2011, new construction was required to meet California Green Building Code (CALGreen). The project will exceed CALGreen standards where possible and be built to meet US Green Building Council Leadership in Energy and Environmental Design (LEED) Silver equivalency standards for Building Design and New Construction and for Homes. The mix of uses, design concept and size of the site will afford many opportunities to incorporate sustainable features and strategies. At a minimum, on-site sustainability features that will be incorporated into the project, include a 500 kilowatt solar photovoltaic system on the roof of the corporate headquarters (presuming adequate roof load), energy conservation, water conservation, construction waste diversion, stormwater drainage that meets City of Los Angeles Low Impact Development standards, roof gardens, native planting and shading strategies that would be employed throughout the site.

Project Construction

Total construction time is estimated to be 30 months including tenant improvements and renovations of the MGA headquarters building, demolition of existing structures, clearing of site debris, excavation, site preparation, foundation, new building erection, exterior treatments and finishing. Demolition and site preparation are estimated to take two months with approximately 15,218 cubic yards of excavated material (15,000 cubic yards to be hauled off-site for disposal). Haul route disposal would likely occur via the Ventura Freeway (US-101) via Winnetka Avenue, approximately 5.0 miles to the south; via the San Diego Freeway (I-405) via Nordhoff Street, approximately 5.7 miles to the east; and/or the Simi Valley Freeway (CA-118), via De Soto Avenue approximately 3.5 miles to the north/northwest. The first year of full project occupancy is anticipated to be 2019.



LEGEND:

Project Site

SOURCE: TAHA 2014.

FIGURE 2-1

SITE PLAN

3.0 AIR QUALITY

This section examines the degree to which the proposed project may cause significant adverse changes to air quality. Both short-term construction emissions occurring from activities, such as site grading and haul truck trips, and long-term effects related to the ongoing operation of the proposed project are discussed in this section. This analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. “Emissions” refer to the quantity of pollutants released into the air, measured in pounds per day (ppd). “Concentrations” refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). This chapter also includes an assessment of greenhouse gas emissions and global climate change.

3.1 POLLUTANTS AND EFFECTS

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb).

Carbon Monoxide (CO). CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spacial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[1] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood’s ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone (O_3). O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC) and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, the components of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and some immunological changes.

Nitrogen Dioxide (NO_2). NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the

[1]Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Sulfur Dioxide (SO_2). SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X and VOC. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Ultrafine Particulate Matter (Ultrafine PM). Ultrafine PM emissions form during engine combustion and in the atmosphere, immediately after leaving the tail-pipe as emitted gases condense and rapidly dilute and cool. Internal combustion engines have been identified as significant sources of ultrafine PM. A significant proportion of diesel emission particles have diameters smaller than 100 nanometer (nm) or 0.1 micrometer (μm). Particles emitted from gasoline-powered engines are generally less than 80 nm (0.08 μm) in diameter. Particles from compressed natural gas (CNG) fueled engines are smaller than from diesel emissions, with majority between 20 nm and 60 nm (0.02 μm – 0.06 μm).

Numerous studies have associated particulate matter levels with adverse health effects, including increased mortality, hospital admissions, and respiratory disease symptoms. Results from several studies and postulated health effects mechanisms suggest that the ultrafine portion of PM may be important in determining the toxicity of ambient particulates.

For a given mass concentration, ultrafine particulates have much higher numbers and surface areas compared to larger particles. Particles can act as carriers for other agents, such as trace metals and organic compounds which can collect on the particles surfaces; the ultrafine particles with larger surface area may transport more of such toxic agents into the lungs than larger particles. In laboratory toxicity studies, a greater inflammatory and oxidative stress response has been elicited from ultrafine particles compared to larger particles at comparable mass doses. Oxidative stress is a term to describe cell, tissue or organ damage caused by reactive oxygen species. After inhalation, ultrafine particles may penetrate rapidly into lung tissue; and some portions may be translocated to other organs of the body. Additionally, ultrafine particles have been found to penetrate cells and subcellular organelles. In cell cultures exposed to ambient particles, ultrafine particles have been found in mitochondria where they induced structural damage.

Lead (Pb). Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time and growth.

Toxic Air Contaminants (TACs). TACs are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical; its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a State law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks.

The State Air Toxics Program (AB 2588) identified over 200 TACs, including the 188 TACs identified in the Federal Clean Air Act (CAA). The United States Environmental Protection Agency (USEPA) has assessed this expansive list of toxics and identified 21 TACs as Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and nonroad equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. USEPA also extracted a subset of these 21 MSAT compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene. While these six MSATs are considered the priority transportation toxics, USEPA stresses that the lists are subject to change and may be adjusted in future rules.

Diesel Particulate Matter (diesel PM). According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on road diesel engines of trucks, buses and cars and the off road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to diesel PM is breathing the air that contains diesel PM. The fine and ultra-fine particles are respirable (similar to $PM_{2.5}$), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel PM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Unlike other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, California Air Resources Board (CARB) has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM.

Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, SCAQMD estimated that diesel PM accounts for 84 percent of the total risk in the South Coast Air Basin (Basin).

3.2 REGULATORY SETTING

The CAA governs air quality in the United States. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, CAA is administered by the USEPA. In California, the CCAA is administered by the CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels.

United States Environmental Protection Agency (USEPA). The CAA governs air quality in the United States. The USEPA is responsible for enforcing the CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in States other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

As required by the CAA, NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in Table 3-1. The USEPA has classified the Basin as attainment for SO_2, maintenance for CO and PM_{10} and nonattainment for O_3, $PM_{2.5}$, and Pb.

California Air Resources Board (CARB). In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the CCAA. In California, the CCAA is administered by the CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. The CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The State standards are summarized in Table 3-1.

The CCAA requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as non-attainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years.

TABLE 3-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

Pollutant	Averaging Period	California Standards	California Attainment Status	Federal Standards	Federal Attainment Status
Ozone (O_3)	1-hour	0.09 ppm (180 μg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 μg/m^3)	n/a	0.075 ppm (147 μg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 μg/m^3	Nonattainment	150 μg/m^3	Non-attainment
	Annual Arithmetic Mean	20 μg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 μg/m^3	Nonattainment
	Annual Arithmetic Mean	12 μg/m^3	Nonattainment	15 μg/m^3	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	Maintenance	9 ppm (10 mg/m^3)	Maintenance
	1-hour	20 ppm (23 mg/m^3)	Maintenance	35 ppm (40 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Attainment	0.053 ppm (100 μg/m^3)	Attainment
	1-hour	0.18 ppm (338 μg/m^3)	Attainment	100 ppb (188 μg/m^3	n/a
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	--	0.030 ppm (80 μg/m^3)	Attainment
	24-hour	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (365 μg/m^3)	Attainment
	3-hour	--	--	--	--
	1-hour	0.25 ppm (655 μg/m^3)	Attainment	--	--
Lead (Pb)	30-day average	1.5 μg/m^3	Attainment	--	--
	Calendar Quarter	--	--	1.5 μg/m^3	Attainment

Note: n/a = not available.
SOURCE: CARB, *Ambient Air Quality Standards*, June 4, 2013; CARB; State Standard Area Designations, http://www.arb.ca.gov/desig/statedesig.htm; USEPA, The Green Book Nonattainment Areas for Criteria Pollutants, http://www.epa.gov/air/oaqps/greenbk/index.html.

Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}.[2]

Toxic Air Contaminants (TACs). CARB's Statewide comprehensive air toxics program was established in the early 1980's. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds.

[2]CARB, *Area Designation Maps*, available at http://www.arb.ca.gov/desig/adm/adm.htm, accessed July 1, 2014.

California has established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. During the first step (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. During this process, CARB and the OEHHA staff draft a report that serves as the basis for this determination. CARB staff assesses the potential for human exposure to a substance and the OEHHA staff evaluates the health effects. After CARB and the OEHHA staff hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel (SRP), who reviews the report for its scientific accuracy. If the SRP approves the report, they develop specific scientific findings which are officially submitted to CARB. CARB staff then prepares a hearing notice and draft regulation to formally identify the substance as a TAC. Based on the input from the public and the information gathered from the report, the CARB Board decides whether to identify a substance as a TAC. In 1993, the California Legislature amended the Toxic Air Contaminant Identification and Control Act by requiring CARB to identify 189 federal hazardous air pollutants as State TACs.

In the second step (risk management), CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk.

The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a Statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

California's Diesel Risk Reduction Program. The CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, the CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Board approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase.

During the control measure phase, specific Statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

South Coast Air Quality Management District (SCAQMD). The 1977 Lewis Air Quality Management Act created the SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain CAAQS and NAAQS in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality within the project area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south (**Figure 3-1**).

The SCAQMD is responsible for preparing the regional Air Quality Management Plan (AQMP). The AQMP is the SCAQMD plan for improving regional air quality. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality by their applicable deadlines. Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

On December 7, 2012, the SCAQMD Governing Board adopted the 2012 AQMP to continue the progression toward clean air and compliance with State and federal requirements. It includes a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources and area sources. The 2012 AQMP proposes attainment demonstration of the federal 24-hour $PM_{2.5}$ standard by 2014 in the Basin through adoption of all feasible measures while incorporating current scientific information and meteorological air quality models. It also updates the USEPA approved eight-hour O_3 control plan with new commitments for short-term NO_X and VOC reductions.

SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). While Southern California is a leader in reducing emissions, and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation. SCAG completed the 2012-2035 RTP/SCS, which includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill (SB) 375. Goals and policies included in the 2012-2035 RTP/SCS to reduce air pollution consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling). SCAG promotes the following policies and actions related to active transportation to help the region confront congestion and mobility issues and consequently improve air quality:

- Implement Transportation Demand Management (TDM) strategies including integrating bicycling through folding bikes on buses programs, triple racks on buses, and dedicated racks on light and heavy rail vehicles;
- Encourage and support local jurisdictions to develop "Active Transportation Plans" for their jurisdiction if they do not already have one;
- Expand Compass Blueprint program to support member cities in the development of bicycle plans;
- Expand the Toolbox Tuesday’s program to encourage local jurisdictions to direct enforcement agencies to focus on bicycling and walking safety to reduce multimodal conflicts;
- Support local advocacy groups and bicycle-related businesses to provide bicycle-safety curricula to the general public;

SOURCE: South Coast Air Quality Monitoring District, 2014.

FIGURE 3-1

SOUTH COAST AIR BASIN

- Encourage children, including those with disabilities, to walk and bicycle to school;
- Encourage local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network; and
- Support local jurisdictions to connect all of the cities within the SCAG region via bicycle facilities.

3.3 EXISTING SETTING

3.3.1 Air Pollution Climatology

The project site is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is in an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. This Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 levels are also generally higher during fall and winter days.

3.3.2 Local Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the project site and its vicinity, the average wind speed, as recorded at the Reseda Wind Monitoring Station, is approximately 2.5 miles per hour, with calm winds occurring approximately 2.5 percent of the time. Wind in the vicinity of the project site predominately blows from the east.[3]

The annual average temperature in the project area is 64.4 degrees Fahrenheit (°F). The project area experiences an average winter temperature of approximately 54.3 °F and an average summer temperature of approximately 77.7 °F. Total precipitation in the project area averages approximately 13.4 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during

[3] SCAQMD, *Meteorological Data,* available at: http://www.aqmd.gov/smog/metdata/MeteorologicalData.html, accessed July 1, 2014.

the summer. Precipitation averages approximately 8.2 inches during the winter, approximately 3.3 inches during the spring, approximately 1.9 inches during the fall, and 0.1 inch during the summer.[4]

3.3.3 Air Monitoring Data

The SCAQMD monitors air quality conditions at 40 locations throughout the Basin. The project site is located in SCAQMD's East San Fernando Valley Air Monitoring Subregion, which is served by the Reseda–Gault Street Monitoring Station. The Reseda–Gault Street Monitoring Station is located approximately 3.5 miles southeast of the project site near the intersection of Sherman Way and Reseda Boulevard (**Figure 3-2**). Historical data from the Pasadena Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the Pasadena Monitoring Station include O_3, CO, NO_2, and $PM_{2.5}$. Historical data from this Monitoring Station were used to characterize existing conditions in the vicinity of the project area. SO_2 is no longer a pollutant of concern in the Basin, and monitored data was not available.

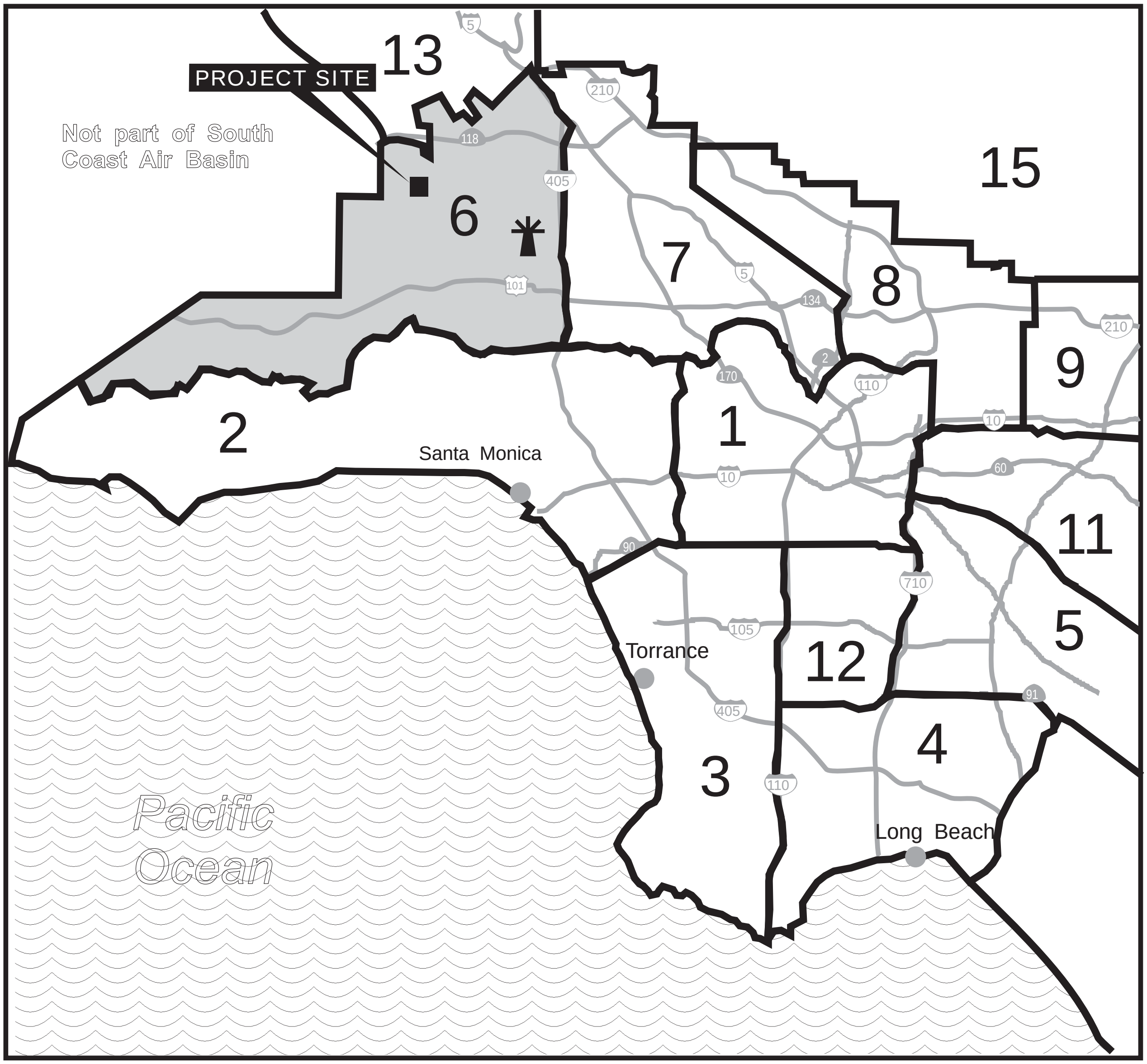
Table 3-2 shows pollutant levels, the State standards and the number of exceedances recorded at the Reseda Monitoring Station from 2011 to 2013.[5] As **Table 3-2** indicates, criteria pollutants CO, NO_2, did not exceed the State standards from 2011 to 2013. However, the one-hour State standard for O_3 was exceeded 7 to 17 times during this period. The eight-hour State standard for O_3 was exceeded 21 to 39 times. The 24-hour State standard for PM_{10} was exceeded four times during this time period; the annual State standard for $PM_{2.5}$ was exceeded each year from 2011 to 2013.

TABLE 3-2: AMBIENT AIR QUALITY DATA

		Reseda-Gault Street Monitoring Station		
		Number of Days Above State Standard		
Pollutant	**Pollutant Concentration & Standards**	**2011**	**2012**	**2013**
Ozone	Maximum 1-hr Concentration (ppm) Days > 0.09 ppm (State 1-hr standard) Maximum 8-hr Concentration (ppm) Days > 0.07 ppm (State 8-hr standard)	0.13 17 0.10 35	0.13 18 0.10 39	0.12 7 0.09 21
Carbon Monoxide	Maximum 8-hr concentration (ppm) Days > 9.0 ppm (State 8-hr standard)	2.8 0	2.9 0	-- --
Nitrogen Dioxide	Maximum 1-hr Concentration (ppm) Days > 0.18 ppm (State 1-hr standard)	0.070 0	0.071 0	0.060 0
Respirable Particulate Matter /a/	Maximum 24-hr concentration (μg/m^3) Days > 50 μg/m^3 (State 24-hr standard)	60 2	54 1	51 1
Fine Particulate Matter ($PM_{2.5)}$	Maximum 24-hr concentration (μg/m^3) Exceed State Standard (12 μg/m^3)	52.7 Yes	41.6 Yes	44.4 Yes

/a/ 24-hr PM_{10} concentrations were obtained from the Simi Valley-Cochran Street Air Monitoring Station that is the next closest air monitoring station to the proposed project site, since Reseda-Gault Street Monitoring Station PM_{10} data.
SOURCE: CARB, Air Quality Data Statistics, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed March 14, 2014.
CO pollutant concentration was obtained from SCAQMD, Historical Data by Year, available at http://www.aqmd.gov/smog/historicaldata.htm, accessed March 14, 2014.

[4] Western Regional Climate Center, *Historical Climate Information*, available at http://www.wrrc.dri.edu, accessed July 1, 2014.
[5] Monitored data for 2011 was not available when this analysis was completed.



LEGEND: Reseda Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

Not to Scale

N

SOURCE: South Coast Air Quality Monitoring District, 2014.

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MGA Campus Project
Air Quality, Greenhouse Gas, and Noise Impact Report
ENVIRONMENTAL PLANNING ASSOCIATES

FIGURE 3-

RESEDA AIR MONITORING STATION

3.3.4 Air Quality Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. CARB has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes. As shown in **Figure 3-3**, sensitive receptors within approximately one-quarter mile (1,320 feet) of the project site include the following:

- Single-family residences located 1,300 feet to the north of Plummer Street
- Single-family residences located approximately 1,500 feet to the south of Nordhoff Street
- The "Village" residential development located approximately 1,900 feet to the east at the corner of Corbin Avenue and Prairie Street

The above sensitive receptors represent the nearest residential land uses with the potential to be impacted by the proposed project. Additional sensitive receptors are located further from the project site in the surrounding community and would be less impacted by air emissions than the above sensitive receptors.

3.4 METHODOLOGY AND SIGNIFICANCE CRITERIA

3.4.1 Methodology

Construction. This air quality analysis is consistent with the methods described in the SCAQMD *CEQA Air Quality Handbook* (1993 edition), as well as the updates to the *CEQA Air Quality Handbook*, as provided on the SCAQMD website.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant missions and GHG emissions associated with both construction and operational from a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Construction assumptions used in the CalEEMod analysis include:

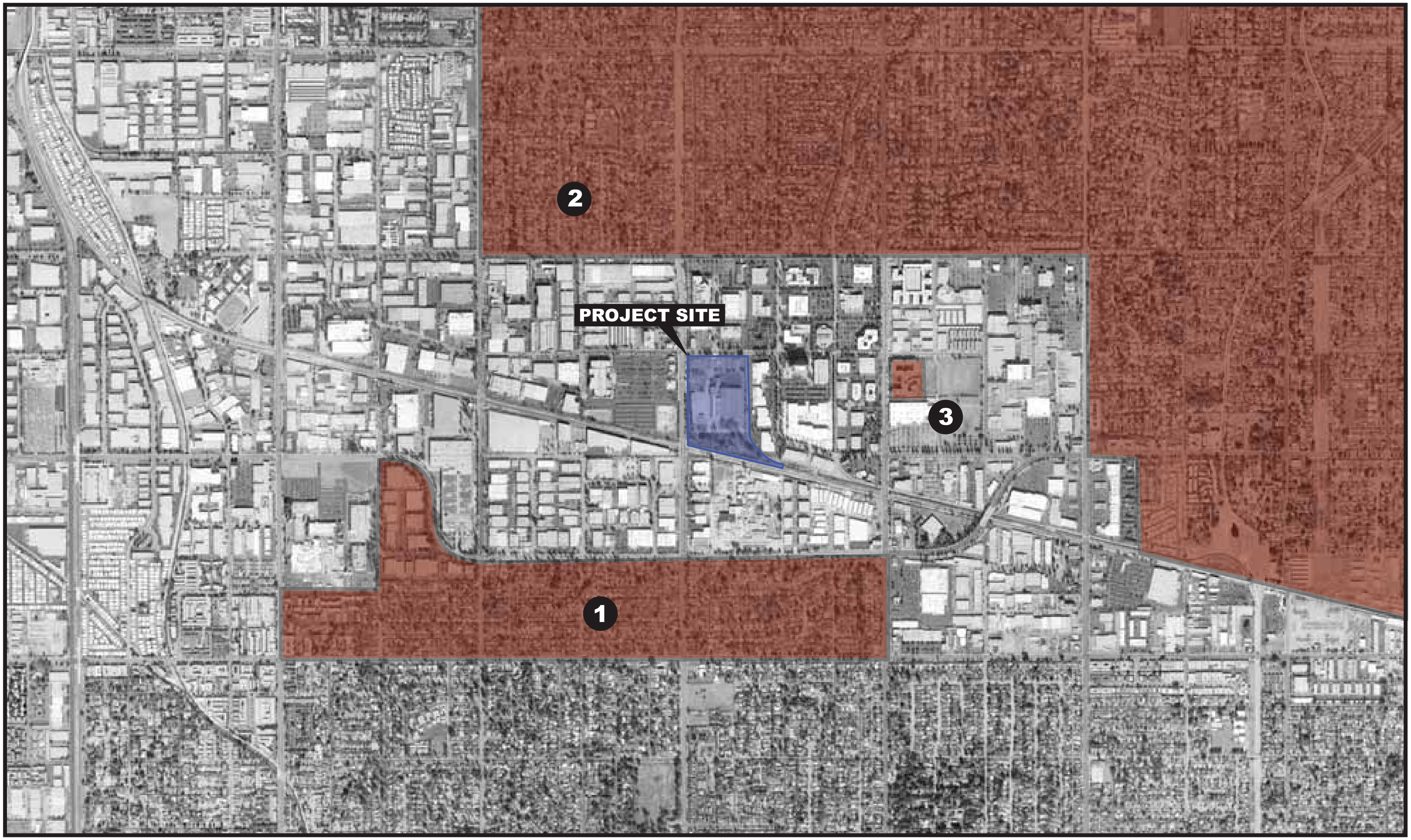
Phase 1: Demolition
- Duration: 4 weeks
- Demolition Amount: 170,500 cubic feet of debris

Phase 2: Grading
- Duration: 4 weeks
- Full-time Operating Equipment: 5

Phase 3: Construction
- Duration: 148 weeks
- Full-time Operating Equipment: 9

Phase 4: Asphalt Paving
- Duration: 4 weeks
- Total Operating Equipment: 6

Phase 5: Agricultural Coating
- Duration: 148 weeks
- Total Operating Equipment: 1



LEGEND:

Project Site

Air Quality Sensitive Receptors

1. Single-Family Residences
2. Single-Family Residences
3. The "Village" Residential Development

Approx. Scale

0 425 850 Feet

N

SOURCE: Google Earth and TAHA, 2014.

taha

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Air Quality, Greenhouse Gas, and Noise Impact Report

taha 2013-011

ENVIRONMENTAL PLANNING ASSOCIATES

FIGURE 3-3

AIR QUALITY SENSITIVE RECEPTORS

Localized emissions, or on-site, emissions were also estimated using CalEEMod. The area disturbed per day was estimated based on the anticipated equipment to be used during the grading phase and the area that equipment could disturb per day based on data provided in the CalEEMod technical Appendix. It is anticipated that 1.5 acres would be disturbed per day. Emissions were compared to the SCAQMD Lookup Tables to assess the level of significance.

Operations. CalEEMod version 2013.2.2 was used to calculate operational emissions associated with land use development (e.g., energy use). Mobile source emissions were estimated using vehicle miles traveled (VMT) developed by Overland Traffic Consultants, Inc. and Crain & Associates. Trip generation was based on the Institute of Transportation Engineers *Multi-Use Development Trip Generation and Internal Capture* guidance. It was estimated that the proposed project would generate a daily VMT of 62,291 without implementation of Project Design Features (shuttle and Transit Demand Management Program). Automobile emissions were estimated using the VMT and emission factors from EMFAC2011.

In order to illustrate the effect of Project Design Features (PDF), emissions reductions from PDF are not included in the initial calculations, but PDF are included in the after mitigation/with implementation of PDF analysis/discussion.

Localized CO emissions were calculated utilizing the California Department of Transportation's (Caltrans) CALINE4 dispersion model and the CARB's EMFAC2011 model. CALINE4 is a Gaussian line dispersion model, developed by Caltrans; it is used to predict localized vehicle emissions such as CO and other pollutant concentrations from motor vehicle emissions at roadway intersections.

3.4.2 Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact if it would:

- Conflict with or obstruct implementation of applicable air quality plan of the SCAQMD;
- 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); and/or
- Expose sensitive receptors to substantial pollutant concentrations.

Because of the SCAQMD's regulatory role in the Basin, the significance criteria and analysis methodologies in the SCAQMD's Air Quality Guidance Handbook are used in evaluating project impacts. The following presents these significance criteria for both construction and operational emissions:

Construction Phase Significance Criteria

The proposed project would have a significant impact if:

- Daily localized or regional, construction emissions were to exceed SCAQMD thresholds presented in **Table 3-3**;
- The proposed project would generate TAC emissions that generate a health risk that exceeds ten persons in one million; and/or
- The proposed project would create an odor nuisance.

TABLE 3-3: SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS		
Criteria Pollutant	**Regional Emissions (Pounds Per Day)**	**Localized Emissions (Pounds Per Day)**
Volatile Organic Compounds (VOC)	75	--
Nitrogen Oxides (NO_X)	100	227
Carbon Monoxide (CO)	550	5,546
Sulfur Oxides (SO_X)	150	--
Fine Particulates ($PM_{2.5}$)	55	61
Particulates (PM_{10})	150	127
/a/ Localized thresholds based on 400-meter receptor distance and 1.5 acre project site. **SOURCE:** SCAQMD, *CEQA Air Quality Guidelines,* 2014.		

Operational Phase Significance Criteria

The proposed project would have a significant impact if:

- Daily operational emissions were to exceed SCAQMD operational emissions thresholds presented in **Table 3-4**;
- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively;
- The proposed project would generate TAC emissions that generate a health risk that exceeds ten persons in one million;
- The proposed project would create an odor nuisance; and/or
- The proposed project would not be consistent with the AQMP.

TABLE 3-4: SCAQMD DAILY OPERATIONAL EMISSIONS THRESHOLDS	
Criteria Pollutant	**Pounds Per Day**
Volatile Organic Compounds (VOC)	55
Nitrogen Oxides (NO_X)	55
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_X)	150
Fine Particulates ($PM_{2.5}$)	55
Particulates (PM_{10})	150
SOURCE: SCAQMD, *CEQA Air Quality Guidelines,* 2014.	

3.5 IMPACTS

3.5.1 Construction

Regional Impacts

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipments and through vehicle trips generated by construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from demolition and site preparation (e.g., excavation) activities. NO_X emissions would primarily result from the use of construction equipment. During the finishing phase, paving operations and the application of architectural coatings (e.g., paints) and other building materials would release VOCs. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

Table 3-5 shows the estimated daily emissions associated with each construction phase. Daily construction emissions for NO_X, CO, SO_X, $PM_{2.5}$ and PM_{10} would not exceed the SCAQMD regional thresholds. However, daily construction emissions would exceed the SCAQMD regional thresholds for VOC. Therefore, without mitigation, the proposed project would result in a significant impact related to regional construction emissions.

Localized Impacts

Emissions for the localized construction air quality analysis of $PM_{2.5}$, PM_{10}, CO, ROG, and NO_2 were compiled using LST methodology promulgated by the SCAQMD.[6] Localized on-site emissions were calculated using similar methodology to the regional emission calculations. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. As shown in **Table 3-5**, estimated daily localized emissions associated with each construction phase would not exceed the SCAQMD localized thresholds. Therefore, the proposed project would result in a less-than-significant impact related to localized construction emissions.

Toxic Air Contaminant Impacts

The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy-duty equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. The majority of heavy-duty construction equipment activity would take during the brief eight week demolition and site preparation period. These short-term emissions would not substantially contribute to a significant construction health risk. No residual emissions and corresponding individual cancer risk are anticipated after construction. Therefore, the proposed project would result in a less-than-significant impact related to construction TAC emissions.

Odor Impacts

Potential sources that may emit odors during construction activities include equipment exhaust and architectural coatings. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, the proposed project would result in a less-than-significant impact related to construction odors.

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[6]The concentrations of SO_2 are not estimated because construction activities would generate a small amount of SO_X emissions. No State standard exists for VOC. As such, concentrations for VOC were not estimated.

TABLE 3-5: CONSTRUCTION EMISSIONS - UNMITIGATED						
	Pounds Per Day (lbs/day)					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
Bridge- Demolition						
On-Site Emissions	2	25	18	<1	1	1
Off-Site Emissions	<1	<1	1	<1	<1	<1
Total Emissions	3	25	19	<1	1	1
Bridge- Grading						
On-Site Emissions	2	20	11	<1	1	1
Off-Site Emissions	<1	<1	1	<1	<1	<1
Total Emissions	2	20	11	<1	1	1
Bridge- Installation						
On-Site Emissions	3	23	11	<1	1	1
Off-Site Emissions	5	18	60	<1	2	8
Total Emissions	7	41	72	<1	4	9
Demolition						
On-Site Emissions	4	44	33	<1	3	5
Off-Site Emissions	1	12	9	<1	<1	1
Total Emissions	5	56	42	<1	3	6
Grading						
On-Site Emissions	3	34	22	<1	3	5
Off-Site Emissions	<1	<1	1	<1	<1	<1
Total Emissions	3	34	23	<1	3	5
Site Preparation						
On-Site Emissions	3	36	27	<1	4	7
Off-Site Emissions	<1	<1	1	<1	<1	<1
Total Emissions	3	36	28	<1	4	7
Building Construction						
On-Site Emissions	4	31	19	<1	2	2
Off-Site Emissions	5	18	60	<1	2	8
Total Emissions	8	49	79	<1	4	10
Paving						
On-Site Emissions	2	20	15	<1	1	1
Off-Site Emissions	<1	<1	1	<1	<1	<1
Total Emissions	2	20	16	<1	1	1
Architectural Coatings						
On-Site Emissions	124	2	2	<1	<1	<1
Off-Site Emissions	<1	1	6	<1	<1	1
Total Emissions	124	3	8	<1	1	2
Maximum Regional Total /a/	**124**	**85**	**108**	**<1**	**9**	**17**
REGIONAL SIGNIFICANCE THRESHOLD /a/	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	**Yes**	No	No	No	No	No
Maximum On-Site Total	124	67	46	<1	6	9
LOCALIZED SIGNIFICANCE THRESHOLD /b/	**--**	**227**	**5,546**	**--**	**61**	**127**
Exceed Threshold?	--	No	No	--	No	No

/a/ The maximum daily emissions are calculated based on overlap between Grading and Site Preparation phases and overlap between Site Preparation and Building Construction phases.
/b/ Localized thresholds based on 400-meter receptor distance and 1.5 acre project site.
SOURCE: Terry A. Hayes Associates Inc., 2014.

3.5.2 Operational Phase

Regional Impacts

Motor vehicles that access the project site would be the predominant source of long-term project emissions. Operational emissions are expected to be emitted primarily from vehicles accessing the project site for the on-site residences. The proposed project would generate 8,328 daily vehicle trips and 69,942 daily VMT.[7] **Table 3-6** shows that regional operational emissions would exceed the SCAQMD thresholds for NO_X under future with project conditions. Therefore, without mitigation, the proposed project would result in a significant impact related to operational emissions.

TABLE 3-6: OPERATIONAL EMISSIONS - WITHOUT PROJECT DESIGN FEATURES

	Pounds Per Day					
	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
FUTURE WITH PROJECT CONDITIONS (2019)						
Area Source	26	3	60	0	1	1
Mobile Source	8	62	194	1	4	9
Total	34	65	254	1	5	10
Regional Significance Threshold	**55**	**55**	**550**	**150**	**55**	**150**
Exceed Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**
SOURCE: TAHA, 2014.						

Localized Impacts

CO concentrations in the future are expected to be lower than existing conditions due to stringent State and federal mandates for lowering vehicle emissions. Although traffic volumes would be higher in the future both without and with the implementation of the proposed project, CO emissions from mobile sources are expected to be much lower due to technological advances in vehicle emissions systems, as well as from normal turnover in the vehicle fleet. Accordingly, increases in traffic volumes are expected to be offset by increases in cleaner-running cars as a percentage of the entire vehicle fleet on the road.[8]

The State one- and eight-hour CO standards may potentially be exceeded at congested intersections with high traffic volumes. An exceedance of the State CO standards at an intersection is referred to as a CO hotspot. The SCAQMD recommends a CO hotspot evaluation of potential localized CO impacts when volume-to-capacity (V/C) ratios are increased by two percent at intersections with a level of service (LOS) of D or worse. SCAQMD also recommends a CO hotspot evaluation when an intersection decreases in LOS by one level beginning when LOS changes from C to D.

Based on the traffic study, the intersections that require a localized CO analysis include Corbin Avenue and Plummer Street (AM Peak Hour) under existing plus project conditions and Winnetka Avenue and Nordhoff Street, Winnetka Avenue and Parthenia Street, Winnetka Avenue and Roscoe Boulevard, Corbin Avenue and Plummer Street (AM Peak Hour) and Corbin Avenue and Plummer Street and Mason Avenue and Plummer Street (PM Peak Hour) under Future with Project. The Caltrans CALINE4 Gaussian dispersion model was used to calculate CO concentrations. As shown in **Table 3-7**, one- and eight-hour CO concentrations would be approximately 1.0 and 0.7 ppm at worst-case sidewalk receptors, respectively. The State one-and eight-hour standards of 20 and 9.0 ppm, respectively, would not be exceeded at the study intersections. Therefore, the proposed project would result in a less-than-significant impact related to operational localized impacts.

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[7]Overland Traffic Consultants, Inc., *Traffic Impact Analysis for a Proposed Mixed-Use Development*, February 5, 2014 and VMT analysis prepared by Crain and Associates.

[8]Consistent with CARB's vehicle emissions inventory.

TABLE 3-7: ESTIMATED CARBON MONOXIDE CONCENTRATIONS		
Intersection	**1-hour (ppm)**	**8-hour (ppm)**
FUTURE WITH PROJECT (2019)		
Mason Ave. and Plummer St. - PM Peak Hour	0.9	0.6
Winnetka Ave. and Nordhoff St. - AM Peak Hour	0.8	0.6
Winnetka Ave. and Parthenia St. - AM Peak Hour	0.9	0.6
Winnetka Ave. and Roscoe Blvd. - AM Peak Hour	0.9	0.6
Winnetka Ave. and Roscoe Blvd. - PM Peak Hour	1.0	0.7
Corbin Ave. and Plummer St. - AM Peak Hour	0.9	0.6
Corbin Ave. and Plummer St. - PM Peak Hour	0.9	0.6
State Standard	**20.0**	**9.0**
SOURCE: TAHA, 2014.		

Toxic Air Contaminant Impacts

The SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[9] The proposed project's mix of corporate and creative office, residential and neighborhood serving commercial uses are not anticipated to generate a substantial number of daily truck trips. Based on the limited activity of TAC sources, the proposed project would not warrant the need for a health risk assessment associated with on-site activities, and potential TAC impacts are expected to be less than significant.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes and automotive repair facilities. The proposed project would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). It was expected that the proposed project would not release substantial amounts of TACs, and no significant impact on human health would occur.

The CARB has published guidance for locating new sensitive receptors (e.g., residences) out of harm's way with respect to nearby sources of air pollution.[10] Relevant recommendations include avoid locating new sensitive land uses within 500 feet of a freeway (defined as an urban roads with 100,000 vehicles per day) or 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). The project site is located approximately 4,000 feet from Interstate 101 and approximately 755 feet from the nearest gas station (Arco at 12500 Ventura Boulevard). Additional guidelines in the handbook include avoiding locating new sensitive receptors near rail yards, ports, refineries, distribution centers and dry cleaners. The proposed project would not be located near these air polluting sources. The project site is located adjacent to the Southern Pacific Railroad Right-of-Way. While the CARB guidance includes recommendations related to rail yards and associated TAC emissions (e.g., diesel particulate matter), CARB does not recommend against locating new land uses adjacent to rail tracks. As the location of the proposed project would be consistent with the CARB recommendations for the placement of new sensitive receptors, the proposed project would have a less-than-significant impact related to TACs.

Odor Impacts

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food

[9] SCAQMD, *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions*, December 2002.

[10] CARB, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005.

processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The project site would be developed with residences and not land uses that are not typically associated with odor complaints. On-site trash receptacles would have the potential to create adverse odors. Trash receptacles would be located and maintained in a manner that promotes odor control and no adverse odor impacts are anticipated from these types of land uses. Therefore, the proposed project would result in a less-than-significant impact related to operational odors.

3.5.3 Consistency with the Air Quality Management Plan

The overall control strategy for the 2012 AQMP is designed to meet applicable federal and State requirements, including attainment of ambient air quality standards. The focus of the 2012 AQMP is to demonstrate attainment of the federal 2006 24-hour PM2.5 ambient air quality standard, as well as an update to further define measures to meet the federal and state 8-hour ozone standards. The attainment demonstration for the recent 8-hour ozone standard (75 ppb) will be addressed in the 2015 ozone plan.

The 2012 AQMP provides base year emissions and future baseline emission projections. In doing so, the 2012 AQMP relies upon the most recent planning assumptions and the best available information including CARB's latest emission factors (EMFAC2011) for the on-road mobile source emissions inventory, CARB's 2011 in-use fleet inventory for the off-road mobile source emission inventory, the latest point source inventory, updated area source inventories, and SCAG's forecast growth assumptions based on its recent 2012-2035 RTP/SCS. The baseline emission projections provide a snapshot of the future air quality conditions, including the effects from already adopted rules and regulations, but without a proposed control strategy. Unanticipated growth could result in inaccurate baseline emission projections.

While the proposed project would represent a change in land use from the designated Parking and Light Industrial Zones, the proposed project is consistent with the 2012-2035 RTP/SCS in locating mixed uses adjacent to other uses near transit (approximately 0.3 miles). The proposed project would also include a shuttle to assist employees with transit opportunities. While the proposed project would increase local VMT and emissions, it would reduce regional VMT and emissions because development that occurs as mixed-use infill near transit is an efficient method of minimizing vehicle trips and emissions. From this perspective, the proposed project is consistent with the 2012-2035 RTP/SCS and 2012 AQMP.

The proposed project would be consistent with applicable goals of the 2012-2035 RTP/SCS. Specifically, the proposed project would encourage the use of non-motorized transportation, bicycling, and walking. This would protect the environment and health of residents by improving air quality and encouraging active transportation. This would also be consistent with the 2012-2035 RTP/SCS goal of encouraging land use and growth patterns that facilitate transit and non-motorized transportation. Therefore, the proposed project would result in a less-than-significant impact related to the AQMP. The proposed project would not conflict with or obstruct implementation of the AQMP.

3.6 PROJECT DESIGN FEATURES

As detailed in the Traffic Study, the project includes project design features to reduce trips (project shuttles and Transportation Demand Management). The related project sign features include:

PDF-III.K-2 Metro transit and LADOT DASH no longer serve the project site, the foundation of the start-up multi-mode program the applicant shall implement is to provide a site-serving transit service with the implementation of a private shuttle route to connect residents and employees to nearby employment centers, transit stations and commercial retail centers.

Project Shuttles

A shuttle route shall be created to mitigate the peak hour traffic impacts. The shuttle shall be available to serve the site during mid-day and evening hours to provide residents and employees more mobility choices throughout the day. This will allow residents and employees to be car-free if desired. The route is targeted to the Metro Orange Line and the Chatsworth Metrolink Station. The peak hour routes will allow residents and employees to take shuttles for work and non-work trips and provide connections to train and bus stations at the Metro Chatsworth Orange Line/Metro link Station. Limited stops at major transfer points can be worked out with LADOT and Metro to also provide the necessary connections to local Chatsworth transit.

The shuttle shall provide 20 to 30-minute headways during the morning and afternoon peak hour to the nearby transit stations and work centers. Mid-day and off-peak schedules will be more demand-responsive providing viable and convenient transit options for MGA residents and employees.

- Shuttle will be equipped with bike racks to promote the bike usage program. Note that DASH service does not currently provide bike racks.
- Shuttle advertising will promote the bike share program.

PDF-III.K-3 The applicant proposes to provide a full Transportation Demand Management (TDM) program and will create a multi-modal hub at the MGA campus. The TDM program will include bike and car share programs and other TDM programs such as on-site day care for both MGA residents and employees as well as an employee cafeteria and a satellite work center for residents who choose to telecommute. The TDM program will also include incentives to reduce trips and disincentives to discourage driving alone (corporate culture, marketing/information, promotional activities, subsidy to employees who ride transit, cash equivalent of parking subsidy, alternative work arrangements); see Appendix H for the full details of the TDM program. The effectiveness of the TDM program will be monitored after the first year of occupancy and thereafter as required by The Department of City Planning.

PDF-AQ-1 was considered in the above analysis and would also reduce air emissions.[11] While they are integral components of the project, they would be monitored as mitigation measures to ensure that they are fully implemented and are as effective as anticipated.

PDF-AQ-1 The proposed project would reduce its energy usage by 2,557,071 kilowatt-hours per year[12] by implementing Project Design Features that would include, at a minimum, the following measures, or equivalent measures capable of achieving the same results:

- Installation of energy efficient heating and cooling systems, equipment, and control systems.
- Installation of efficient lighting and lighting control systems.
- Installation of light colored “cool” roofs to more effectively reflect the sun’s energy from the roof’s surface to reduce the roof surface temperature, and use of shade structures such as awnings or canopies around soundstages and mills to reduce the heat island effect.
- Incorporation of energy saving features into building design, as appropriate (e.g., use of passive controls, shading, solar energy, ventilation, appropriate building materials, etc.).

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[11] Overland Traffic Consultants, Inc., *Traffic Impact Analysis for a Proposed Mixed-Use Development*, February 5, 2014 and VMT analysis prepared by Crain and Associates.

[12] Brummitt Energy Associates, Inc., *MGA Campus Building Greenhouse Gas Emissions Summary,* April 16, 2014.

- Prohibition of HVAC, refrigeration, and fire suppression equipment that contains banned chlorofluorocarbons.
- Use of Energy Star appliances.
- Use of photovoltaic technology.

3.7 REGULATORY COMPLIANCE MEASURES

RR-AQ-1 Project construction shall comply with SCAQMD Rule 403 that requires the following:

- Water or a stabilizing agent shall be applied to exposed surfaces at least three times per day to prevent generation of dust plumes.
- Construction contractor shall utilize at least one or more of the following measures at each vehicle egress from the project site to a paved public road in order to effectively reduce the migration of dust and dirt offsite:
  - Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;
  - Pave the surface extending at least 100 feet and at least 20 feet wide;
  - Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or
  - Install a wheel washing system to remove bulk material from tires and vehicle undercarriages.
- All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).
- Construction activity on unpaved surfaces shall be suspended when wind speed exceed 25 miles per hour (such as instantaneous gusts).
- Ground cover in disturbed areas shall be replaced as quickly as possible.

RR-AQ-2 The Applicant shall obtain a permit to construct and a permit to operate any standby generators or boilers under SCAQMD Rules 201, 202, and 203. Potential emissions from these sources are subject to SCAQMD Regulation XIII (New Source Review) and must meet Best Available Control Technology requirements to minimize emissions of PM_{10}, VOC, and NO_X emissions.

3.8 MITIGATION MEASURES

MM-AQ-1 The construction contractor shall use architectural coatings with a volatile organic compound content of 30 grams per liter or less for all interior surfaces and all exterior surfaces in order to minimize VOC emissions from painting.

3.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Construction

The construction analysis identified an unmitigated regional impact related to architectural coatings. Mitigation Measure MM-AQ-1 would reduce project-related architectural coating VOC emissions from 124 pounds per day to 36 pounds per day, which would be less than the SCAQMD regional significance threshold of 55 pounds per day (Table 3-8). Therefore, with mitigation, the proposed project would result in a less-than-significant impact related to regional VOC construction emissions, see Table 3-8.

TABLE 3-8: CONSTRUCTION EMISSIONS - MITIGATED						
	Pounds Per Day (lbs/day)					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
Architectural Coating						
On-Site Emissions	36	2	2	<1	<1	<1
Off-Site Emissions	<1	1	6	<1	<1	1
Total Emissions	36	3	8	<1	1	2
REGIONAL SIGNIFICANCE THRESHOLD	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	No	No	No	No	No
SOURCE: TAHA, 2014.						

Operation

The proposed project includes a detailed Project Design Feature (**PDF-AQ-1**) that would reduce energy use by approximately 2,557,071 kilowatt-hours per year.[13] In addition, the project shuttle and Transit Demand Management Program (**PDF-III.K-2** and **PDF III.K-3**) would reduce VMT from 69,942 (under business-as-usual [BAU] condition) to 56,261. The Project Applicant cannot regulate vehicle emissions at the source, and there is no additional mitigation measure to significantly reduce on-road emissions. As shown in **Table 3-9**, under future (2019) with project conditions, operational NO_X emissions would decrease from 65 to 53 pounds per day, which would be less than the significance threshold.

TABLE 3-9: OPERATIONAL EMISSIONS – WITH PROJECT DESIGN FEATURES						
	Pounds Per Day					
	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
FUTURE WITH PROJECT CONDITIONS (2019)						
Area Source	26	3	60	0	1	1
Mobile Source	6	50	156	1	3	7
Total	32	53	216	1	4	8
Regional Significance Threshold	**55**	**55**	**550**	**150**	**55**	**150**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
SOURCE: TAHA, 2014.						

3.10 CUMULATIVE IMPACTS

Construction

Related projects include the development of almost 1,000 new residential units, plus retail, commercial and institutional uses greater than the proposed project. Regarding localized emissions (i.e., equipment exhaust and fugitive dust), the SCAQMD has indicated in the localized significance thresholds that impacts are limited to within 1,640 feet of the construction zone. The nearest related project to the project site that has not been constructed is the proposed residential development at 20439 Nordhoff Street. This related project is over 1,600 feet from the project site and would not be impacted by project construction. In addition, no sensitive land use is situated within 1,640 feet of both project sites. There is no potential for localized project emissions to combine with localized related project emissions resulting in a cumulatively considerable impact.

Regarding regional emissions, while the proposed project would not result in regional significant impacts during construction, it is possible that regional thresholds could be exceeded when considered with other

[13] Brummitt Energy Associates, Inc., *MGA Campus Building Greenhouse Gas Emissions Summary*, April 16, 2014.

known related projects. While SCAQMD-required mitigation measures would reduce air quality impacts, on a project-by-project basis, construction emissions could contribute to a significant short-term cumulative impact.

Operation

The SCAQMD's approach for assessing cumulative air quality impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. The SCQAMD has set forth significance thresholds designed to assist in the attainment of ambient air quality standards. The proposed project would not result in a cumulatively considerable contribution to air emissions.

4.0 GREENHOUSE GAS EMISSIONS

This section provides an overview of existing greenhouse gas (GHG) emissions inventories and regulations and evaluates the construction and operational impacts associated with the proposed project. Topics addressed include project GHG emissions and consistency with applicable GHG reduction plans and policies. Mitigation measures for air quality are recommended, where necessary.

4.1 POLLUTANTS AND EFFECTS

Greenhouse Gases and the Greenhouse Effect Climate Change

GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic (human generated), that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the earth's surface, the atmosphere itself, and by clouds.[14] Simply put, the greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), keep the average surface temperature of the Earth close to 60 degrees Fahrenheit (°F). Without the greenhouse effect, the Earth would be a frozen globe with an average surface temperature of about 5°F. However, human activities in the past century have substantially increased the amount of greenhouse gases in the atmosphere, causing the atmosphere to trap more heat and leading to changes in the Earth's climate.[15] Climate change refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer. One aspect of Climate Change is Global Warming, which refers to the recent and ongoing rise in global average temperature near Earth's surface. It is caused mostly by increasing concentrations of GHG in the atmosphere. Global Warming is causing climate patterns to change.[16] Rising global temperatures have been accompanied by changes in weather and climate. Many places have seen changes in rainfall, resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves. The planet's oceans and glaciers have also experienced some changes - oceans are warming and becoming more acidic, ice caps are melting, and sea levels are rising. As these and other changes become more pronounced in the coming decades, they will likely present challenges to our society and the environment.

Types of Greenhouse Gases

In addition to CO_2, CH_4, and N_2O, GHGs include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion.[17] CO_2 comprised 81 percent of the total GHG emissions in California in 2002, and non-fossil fuel CO_2 comprised 2.3 percent.[18] The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent of CO_2, denoted as CO_2e. CO_2e is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as

[14] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2013: The Physical Science Basis, Fifth Assessment Report*, ISBN 978 1 107 05799-1 Hardback; 978 1 66182-0 Paperback. 2013.

[15] USEPA, *Greenhouse Gases*, http://www.epa.gov/climate/climatechange/science/indicators/ghg/index.html, accessed March 10, 2014.

[16] *Ibid*.

[17] U.S. Department of Energy - Energy Information Administration, Office of Integrated Analysis and Forecasting. *Emissions of Greenhouse Gases in the United States*, 1995.

[18] California Environmental Protection Agency (Cal/EPA), *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March 2006.

the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. **Table 4-1** shows various GWP.

TABLE 4-1: GLOBAL WARMING POTENTIAL FOR SELECTED GREENHOUSE GASES

Pollutant	Lifetime (Years)	Global Warming Potential (20-Year)	Global Warming Potential (100-Year)
Carbon Dioxide	100	1	1
Nitrous Oxide	121	264	265
Nitrogen Triflouride	500	12,800	16,100
Sulfur Hexaflouride	3,200	17,500	23,500
Perflourocarbons	3,000-50,000	5,000-8,000	7,000-11,000
Black Carbon	days to weeks	270-6,200	100-1,700
Methane	12	84	28
Hydroflourocarbons	Uncertain	100-11,000	100-12,000

SOURCE: CARB, *First Update to the Climate Change Scoping Plan*, May 2014.

Expressing emissions in CO_2e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. The CO_2e of CH_4 and N_2O represented 6.4 and 6.8 percent, respectively, of the 2002 California GHG emissions. Other high GWP gases represented 3.5 percent of these emissions.[19] In addition, a number of human-caused pollutants such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds, and sulfur dioxide have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate-change emissions.

Sources of GHG Emissions

Emissions of GHGs contributing to global climate change are attributable, in large part, to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.[20] In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Emissions of CO_2 are by-products of fossil fuel combustion.[21] CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management.[22] CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.[23]

4.2 REGULATORY SETTING

Federal

National Policy. With regard to GHG emissions and global climate change, in 2002, President George W. Bush set a national policy goal of reducing the GHG emission intensity (tons of GHG emissions per million dollars of gross domestic product) of the nation's economy by 18 percent by 2012. No binding reductions were associated with the goal. The United States instead opted for a voluntary and incentive-based approach toward GHG emissions reductions, identified as the Climate Change Technology Program (CCTP). CCTP is a multi-agency research and development coordination effort, led by the Secretaries of Energy and Commerce.

[19] Cal/EPA, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March 2006.
[20] IPCC, Climate Change, *The Physical Science Basis, Fifth Assessment Report*, 2013.
[21] CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, May 2014.
[22] USEPA, *Methane and Nitrous Oxide Emissions from Natural Sources*, 2010.
[23] USEPA, *Carbon Sequestration through Reforestation, A Local Solution with Global Impact*, March 2012.

Supreme Court Ruling. The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (2007)*, that CO_2 and other GHGs are pollutants under the CAA, which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. On December 7, 2009, USEPA Administrator made two distinct findings: (1) the current and projected concentrations of the six key GHGs in the atmosphere (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threatens the public health and welfare of current and future generations; and (2) the combined emissions of these GHGs from motor vehicle engines contribute to GHG pollution which threatens public health and welfare.

USEPA subsequently published its endangerment finding for GHGs in the Federal Register. The USEPA Administrator determined that six GHGs, taken in combination, endanger both the public health and welfare of current and future generations. Although the endangerment finding discusses the effects of six GHGs, it acknowledges that transportation sources only emit four of the key GHGs: CO_2, CH_4, N_2O, and HFCs. Further, the USEPA Administrator found that the combined emissions of these GHGs from new motor vehicles contribute to air pollution that endangers the public health and welfare under the CAA Section 202(a)

Reporting Requirements. USEPA requires large emitters of GHG to collect and report data. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 metric tons or more of CO_2 equivalent per year to report GHG emissions annually data to USEPA. The Rule is referred to as 40 Code of Federal Regulations (CFR) Part 98-Greenhouse Gas Reporting Program.

Energy Independence and Security Act (EISA). In response to the *Massachusetts v. Environmental Protection Agency* ruling, the Bush Administration issued an executive order on May 14, 2007, directing USEPA, the United States Departments of Transportation, and the United States Departments of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. On December 19, 2007, the EISA was signed into law, which requires an increased corporate average fuel economy (CAFE) standard of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020.

EISA requires establishment of interim standards (from 2011 to 2020) that will be the maximum feasible average fuel economy for each fleet. On October 10, 2008, the National Highway Traffic Safety Administration (NHTSA) released a final environmental impact statement analyzing interim standards for model years 2011 to 2015 passenger cars and light trucks. NHTSA issued a final rule for model year 2011 on March 23, 2009. In addition to setting increased CAFE standards for motor vehicles, the EISA included other provisions: (1) renewable fuel standard (RFS) (Section 202); (2) appliance and lighting efficiency standards (Sections 301–325); and (3) building energy efficiency (Sections 411-441). Additional provisions addressed energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs. On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The federal standards apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles built in model years 2012 through 2016.

In addition, on September 15, 2009, President Obama proposed new fuel efficiency standards for cars and trucks that required fuel economy to increase by five percent annually. In 2016, new cars and trucks will have to achieve an average rating of 35.5 mpg, four years sooner than the law now requires. Alternatively, manufacturers could meet this requirement if their vehicles, on average, emit no more than 250 grams of CO_2 per mile.

Stationary Source Regulations. Under the CAA, once a pollutant is regulated under any part of the Act, (as was case with GHG emissions after the motor vehicle regulations were finalized in April 2010) major new sources or modifications are subject to the Prevention of Significant Deterioration (PSD) program and to Title V operating permits. In the PSD program, major new or modified stationary sources (such as power plants and manufacturing facilities) are required to implement best available control technologies for pollution abatement.

The Tailoring Rule. On May 13, 2010, USEPA issued the final version of a new rule for GHG emissions, referred to as the Tailoring Rule. The rule states that new or modified sources that already are subject to New Source Review requirements for other pollutants will be required to also meet these requirements for GHGs if they increase emissions by more than 75,000 tons of CO_2e annually. Then on July 1, 2011, the requirements will apply to new sources that emit at least 100,000 tons of CO_2e annually and to major modifications of existing sources emitting 75,000 tons of CO_2e annually, even if they do not meet the threshold new source review requirements for other pollutants. In July 2012, the requirements will begin applying Title V operating permit requirements to existing sources not currently covered by Title V if they emit 100,000 tons of CO_2e annually. In regulating these GHG emissions, USEPA has developed guidelines for states to use in determining what would satisfy requirements as "best available control technology" as part of new source review of major modifications or new sources.

GHG and Fuel Efficiency Standards for Passenger Cars and Light-Duty Trucks. In April 2010, USEPA and NHTSA finalized GHG standards for new (model year 2012 through 2016) passenger cars, light-duty trucks, and medium-duty passenger vehicles. Under these standards, CO_2 emission limits would decrease from 295 grams per mile (g/mi) in 2012 to 250 g/mi in 2016 for a combined fleet of cars and light trucks. If all of the necessary emission reductions were made from fuel economy improvements, then the standards would correspond to a combined fuel economy of 30.1 mpg in 2012 and 35.5 mpg in 2016. The agencies issued a joint Final Rule for a coordinated National Program for model years 2017 to 2025 light-duty vehicles on August 28, 2012, that would correspond to a combined fuel economy of 36.6 mpg in 2017 and 54.5 mpg in 2025.

GHG and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles. In October 2010, the USEPA and NHTSA announced a program to reduce GHG emissions and to improve fuel efficiency for medium-and heavy-duty vehicles (model years 2014 through 2018). These standards were signed into law on August 9, 2011. The two agencies' complementary standards form a new Heavy-Duty National Program that has the potential to reduce GHG emissions by 270 million metric tons and to reduce oil consumption by 530 million barrels over the life of the affected vehicles.

Additional Stationary Source Rules. As a consequence of the decision in *Massachusetts v. Environmental Protection Agency*, USEPA entered into a December 2010 judicial settlement ending a long-running lawsuit seeking the inclusion of GHGs under the New Source Performance Standards (NSPS) provisions of the CAA. USEPA committed to promulgating NSPS for GHGs for power plants and refineries. NSPS are technology-based standards for both new and existing sources which apply to specific categories of stationary sources.

State

California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Located in Title 24, Part 6 of the CCR and commonly referred to as "Title 24," these energy efficiency standards were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The goal of Title 24 energy standards is the reduction of energy use. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.[24] On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent

[24] California Energy Commission (CEC), California's Energy Efficiency Standards for Residential and Nonresidential Buildings, *Title 24, Part 6, of the California Code of Regulations*.

(nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in home and businesses.

Executive Order (E.O.) S-3-05. On June 1, 2005, E.O. S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The E.O. establishes State GHG emission targets of 1990 levels by 2020 (the same as Assembly Bill [AB] 32) and 80 percent below 1990 levels by 2050. It calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of State agencies and progress reporting. A recent CEC Report concludes, however, that the primary strategies to achieve this target should be major "decarbonization" of electricity supplies and fuels, and major improvements in energy efficiency.

In response to the E.O., the Secretary of the Cal/EPA created the Climate Action Team (CAT). California's CAT originated as a coordinating council organized by the Cal/EPA. It included the Secretaries of the Natural Resources Agency, the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the State. The council was given formal recognition in E.O. S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 State agencies and departments. The CAT also has ten working groups, which coordinate policies among their members. The working groups and their major areas of focus are as follows:

- *Agriculture:* Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change
- *Biodiversity:* Designing policies to protect species and natural habitats from the effects of climate change
- *Energy:* Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation
- *Forestry:* Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols
- *Land Use and Infrastructure:* Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions
- *Oceans and Coastal:* Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California
- *Public Health:* Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions
- *Research:* Coordinating research concerning impacts of and responses to climate change in California
- *State Government:* Evaluating and implementing strategies to reduce GHG emissions resulting from State government operations
- *Water:* Reducing GHG impacts associated with the State's water systems and exploring strategies to protect water distribution and flood protection infrastructure

Assembly Bill 32 (AB 32). In September 2006, the California Global Warming Solutions Act of 2006, also known as AB 32, was signed into law. AB 32 focuses on reducing GHG emissions in California and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to Statewide levels in 1990 by 2020. The CARB initially determined that the total Statewide aggregated

GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_2e. The 2020 target reduction was estimated to be 174 million metric tons of CO_2e.

To achieve the goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the CEC to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.[25] On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs emissions from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing SF_6 emissions from the non-electricity sector.

The CARB AB 32 Scoping Plan (Scoping Plan) contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing GHG emissions to 1990 levels by 2020 include the following:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a Statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout the State, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions.

CARB has adopted the First Update to the Climate Change Scoping Plan.[26] This update identifies the next steps for California's leadership on climate change. The first update to the initial AB 32 Scoping Plan describes progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the State as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020. Specifically, the update covers a range of topics, including the following:

- An update of the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants.

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[25] CARB, *Proposed Early Action Measures to Mitigate Climate Change in California*, April 20, 2007.
[26] CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, May 2014.

- A review of progress-to-date, including an update of Scoping Plan measures and other State, federal, and local efforts to reduce GHG emissions in California.
- Potential technologically feasible and cost-effective actions to further reduce GHG emissions by 2020.
- Recommendations for establishing a mid-term emissions limit that aligns with the State's long-term goal of an emissions limit 80 percent below 1990 levels by 2050.
- Sector-specific discussions covering issues, technologies, needs, and ongoing State activities to significantly reduce emissions throughout California's economy through 2050.

As discussed above, in December 2007, CARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO_2e. As part of the update, CARB revised the 2020 Statewide limit to 431 million metric tons of CO_2e, an approximately 1 percent increase from the original estimate. The 2020 BAU forecast in the update is 509 million metric tons of CO_2e. The State would need to reduce those emissions by 15 percent to meet the 431 million metric tons of CO_2e 2020 limit.

Senate Bill (SB) 375*.* SB 375, adopted in September 30, 2008, provides a means for achieving AB 32 goals through the reduction in emissions by cars and light trucks. SB 375 requires Regional Transportation Plans (RTP) prepared by metropolitan planning organizations (MPOs) to include Sustainable Communities Strategies (SCS). In adopting SB 375, the Legislature found that improved coordination between land use planning and transportation planning is needed in order to achieve the GHG emissions reduction target of AB 32. Further, the staff analysis for the bill prepared for the Senate Transportation and Housing Committee's August 29, 2008 hearing on SB 375 stated that the bill would help implement AB 32 by aligning planning for housing, land use, transportation and GHG emissions for the 17 MPOs in the State.

Senate Bill (SB) 743*.* SB 743, adopted September 27, 2013, encourages land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) that contribute to GHG emissions, as required by AB 32. Key provisions of SB 743 include reforming aesthetics and parking CEQA analysis for urban infill projects and eliminating the measurement of auto delay, including level of service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 requires the State Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. It also allows OPR to develop alternative metrics outside of transit priority areas.

California Green Building Code. The California Green Building Code, referred to as CALGreen, is the first Statewide green building code. It was developed to provide a consistent, approach for green building within California. CALGreen lays out minimum requirements for newly constructed buildings in California, which will reduce greenhouse gas emissions through improved efficiency and process improvements. It requires builders to install plumbing that cuts indoor water use by as much as 20 percent, to divert 50 percent of construction waste from landfills to recycling, and to use low-pollutant paints, carpets, and floors.

CEQA Guidelines Amendments*.* SB 97 required the Governor's OPR to develop CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." The CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. Noteworthy revisions to the CEQA Guidelines include the following:

- Lead agencies should quantify all relevant GHG emissions and consider the full range of project features that may increase or decrease GHG emissions as compared to the existing setting;

- Consistency with the CARB Scoping Plan is not a sufficient basis to determine that a project's GHG emissions would not be cumulatively considerable;
- A lead agency may appropriately look to thresholds developed by other public agencies, including the CARB's recommended CEQA thresholds;
- 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;
- The effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis; and
- Given that impacts resulting from GHG emissions are cumulative, significant advantages may result from analyzing such impacts on a programmatic level. If analyzed properly, later projects may tier, incorporate by reference, or otherwise rely on the programmatic analysis.

California Air Resources Board (CARB) Guidance. CARB published draft guidance for setting interim GHG significance thresholds (October 24, 2008). The guidance does not attempt to address every type of project that may be subject to CEQA but, instead, focuses on common project types that are responsible for substantial GHG emissions, such as industrial, residential, and commercial projects. CARB believes that thresholds in these important sectors will advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

California Air Pollution Control Officers Association (CAPCOA). CAPCOA is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA promotes unity and efficiency in State air quality issues, and strives to encourage consistency in methods and practices of air pollution control. In 2008, CAPCOA published the *CEQA and Climate Change White Paper*.[27] This paper is intended to serve as a resource for reviewing GHG emissions from projects under CEQA. It considers the application of thresholds and offers approaches toward determining whether GHG emissions are significant. The paper also evaluates tools and methodologies for estimating impacts, and summarizes mitigation measures.

Regional

Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). While Southern California is a leader in reducing emissions, and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation. SCAG completed the 2012-2035 RTP/SCS, which includes a strong commitment to reduce emissions from transportation sources to comply with SB 375. Goals and policies included in the 2012-2035 RTP/SCS to reduce air pollution consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling).

SCAG promotes the following policies and actions related to active transportation to help the region confront congestion and mobility issues and consequently improve air quality:

- Implement Transportation Demand Management (TDM) strategies including integrating bicycling through folding bikes on buses programs, triple racks on buses, and dedicated racks on light and heavy rail vehicles;
- Encourage and support local jurisdictions to develop "Active Transportation Plans" for their jurisdiction if they do not already have one;
- Expand Compass Blueprint program to support member cities in the development of bicycle plans;
- Expand the Toolbox Tuesday's program to encourage local jurisdictions to direct enforcement agencies to focus on bicycling and walking safety to reduce multimodal conflicts;

[27] CAPCOA, *CEQA and Climate Change White Paper*, January 2008.

- Support local advocacy groups and bicycle-related businesses to provide bicycle-safety curricula to the general public;
- Encourage children, including those with disabilities, to walk and bicycle to school;
- Encourage local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network; and
- Support local jurisdictions to connect all of the cities within the SCAG region via bicycle facilities.

South Coast Air Quality Management District (SCAQMD). The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan (AQMP). In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.

SCAQMD released draft guidance regarding interim GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is the lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.

SCAQMD has convened a GHG Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing CEQA GHG Significance Thresholds. The working group is currently discussing multiple methodologies for determining project significance. These methodologies include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

Local

On May 15, 2007, Los Angeles Mayor Antonio Villaraigosa released the "GREEN LA – An Action Plan to Lead the Nation in Fighting Global Warming" (GREEN LA Plan) that has an overall goal of reducing the City of Los Angeles' GHG emissions by 35 percent below 1990 levels by 2030. This goal exceeds the targets set by both California and the Kyoto Protocol, and is the greatest reduction target of any large United States City. The cornerstone of the GREEN LA Plan is increasing the City's use of renewable energy to 35 percent by 2020. Key strategies listed in the GREEN LA Plan related to energy and water includes the following:

Green the Power from the Largest Municipal Utility in the United States

- Meet the goal to increase renewable energy from solar, wind, biomass, and geothermal sources to 20 percent by 2010;
- Increase use of renewable energy to 35 percent by 2020;
- Let contracts for power imports from coal-fired power plants expire;
- Increase the efficiency of natural gas-fired power plants; and
- Increase biogas co-firing of natural gas-fired power plants.

Make Los Angeles a Worldwide Leader in Green Buildings

- By July 2007, present a comprehensive set of green building policies to guide and support private sector development;
- Transform Los Angeles Into the Model of an Energy Efficient City; and

- Reduce energy use by all city departments to the maximum extent feasible.

Complete energy efficiency retrofits of all city-owned buildings to meet a 20 percent or more reduction in energy consumption

- Install the equivalent of 50 “cool roofs” per year by 2010 on new or remodeled city buildings;
- Install solar heating for all city-owned swimming pools;
- Improve energy efficiency at drinking water treatment and distribution facilities; and
- Maximize energy efficiency of wastewater treatment equipment.

Help Angelenos Be “Energy Misers”

- Distribute 2 compact fluorescent light (CFL) bulbs to each of the 1.4 million households in the City;
- Increase the level and types of customer rebates for energy efficient appliances, windows, lighting, and heating and cooling systems;
- Increase the distribution of energy efficient refrigerators to qualified customers; and
- Create a fund to “acquire” energy savings as a resource from Los Angeles Department of Water and Power (LADWP) customers.

4.3 EXISTING SETTING

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century.[28] Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snow peak levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere’s ability to hold more water vapor at higher temperatures;[29]
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[30]
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[31]
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[32]
- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century;[33] and
- Increasing the potential for erosion of California’s coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[34]

[28] USEPA, *Draft Endangerment Finding*, 74 Federal Regulations 18886, 18904, April 24, 2009.
[29] *Ibid.*
[30] IPCC, *Climate Change,* 2007.
[31] *Ibid.*
[32] Cal/EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.
[33] *Ibid.*
[34] *Ibid.*

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.

California is the fifteenth largest emitter of GHG on the planet, representing about two percent of the worldwide emissions.[35] **Table 4-2** shows the California GHG emissions inventory for years 2003 to 2012. Statewide GHG emissions slightly decreased in 2009 due to a noticeable drop in on-road transportation, electricity generation, and industrial emissions.

TABLE 4-2: CALIFORNIA GREENHOUSE GAS EMISSIONS INVENTORY

	CO_2e Emissions (Million Metric Tons)									
Sector	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Transportation	184	187	189	189	189	178	171	170	168	167
Electric Power	113	115	108	105	114	120	101	90	88	95
Commercial and Residential	42	43	41	42	42	42	43	44	44	42
Industrial	93	94	92	90	87	88	85	89	88	89
Recycling and Waste	8	8	8	8	8	8	8	8	8	8
Agriculture	37	36	37	38	37	38	36	36	36	38
High Global Warming Potential	9	10	10	11	12	13	14	16	17	18
Emissions Total	**486**	**493**	**485**	**483**	**489**	**487**	**458**	**453**	**449**	**457**

SOURCE: CARB, *California Greenhouse Gas Inventory 2003-2012*, August 1, 2013.

In 2012, total GHG and per capita emissions increased for the first time, albeit only by a single percentage point, in the last five years. This increase was driven primarily by strong economic growth in the state, the unexpected closure of the San Onofre Nuclear Generating Station, and drought conditions that limited in-state hydropower.

California's gross emissions of GHG decreased by 1.6 percent from 466.3 million metric tons of CO_2e in 2000 to 458.7 million in 2012, with a maximum of 492.7 million metric tons in 2004. During the same period, California's population grew by 11 percent from 34 to 37.8 million people. As a result, California's per capita GHG emissions have generally decreased over the last 12 years from 13.7 in 2000 to 12.1 metric tons of CO_2e per person in 2012.

Emissions from sectors other than electricity remained relatively constant from 2011, and the GHG carbon intensity of California's economy continued to decline in 2012. Beginning in 2013, California's Cap-and-Trade program will ensure that emissions continually decline, even alongside stronger economic growth and potentially drier hydrological conditions, and in the event of any additional unforeseen circumstances.

[35]CARB, *Climate Change Scoping Plan*, December 2008.

4.4 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.4.1 Methodology

GHG emissions were estimated for BAU and proposed project scenarios. BAU included emissions that would occur if the project were to be built without Project Design Features, such as solar energy generation. BAU included implementation of 2008 Building Energy Standards, which were used by CARB to establish the AB 32 reduction goals. The analysis includes implementation of 2013 Building Energy Standards, as required by Title 24 regulations. The following analysis of GHG emissions does not initially include PDF until the after PDF/mitigation discussion. For purposes of this analysis they are included in the after PDF/mitigation analysis in order to illustrate the substantial reduction in emissions. In addition, these PDFs would be monitored along with the mitigation measures.

The analysis considered the following sources of GHG emissions:

- Construction activities;
- Residential and non-residential building energy use;
- Non-building energy use (e.g., parking lights);
- Automobiles;
- Water cycle energy use;
- Solid waste energy use; and
- Landscaping maintenance.

Construction Activities. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential pollutant missions associated with both construction and operational from a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Construction assumptions used in the CalEEMod analysis include:

Phase 1: Demolition
- Duration: 4 weeks
- Demolition Amount: 170,500 cubic feet of debris

Phase 2: Grading/Site Preparation
- Duration: 4 weeks
- Full-time Operating Equipment: 5

Phase 3: Construction
- Duration: 148 weeks
- Full-time Operating Equipment: 9

Phase 4: Asphalt Paving
- Duration: 4 weeks
- Total Operating Equipment: 6

Phase 5: Agricultural Coating
- Duration: 148 weeks
- Total Operating Equipment: 1

Construction emissions would be related to equipment exhaust, truck trips, and worker commute. In accordance with SCAQMD guidance, emissions have been amortized over 30 years to obtain annual emissions.

Residential Building, Non-Residential Building, and Non-Building Energy Use. Emissions related to residential and non-residential building energy use were estimated by Brummitt Energy Associates Inc.[36] BAU emissions were estimated using 2008 Building Energy Standards, which were used by CARB to establish the AB 32 reduction goals. Proposed project emissions were estimated using 2013 Building Energy Standards, as required by Title 24. Electricity and natural gas emission rates were obtained from the Rapid Fire Model used by Calthorpe Associates in the 2012-2035 RTP/SCS. It was estimated that electricity use would generate 0.706 pounds of CO_2e per kilowatt-hour, and natural gas use would generate 11.7 pounds of CO_2e per therm. BAU assumptions are detailed in the Brummitt Energy Associates Inc. analysis, and include variables related to walls, roofs, floors, foundation, windows, skylights, cooling, lighting, site lighting, and hot water heating.

Automobiles. VMT were estimated by Overland Traffic Consultants, Inc. and Crain & Associates. Trip generation was based on the Institute of Transportation Engineers *Multi-Use Development Trip Generation and Internal Capture* guidance. It was estimated that BAU would generate a daily VMT of 69,942. Automobile emissions were estimated using the VMT and emission factors from EMFAC2011.

Water Cycle Energy Use. Electricity intensity factors associated with treatment of water were obtained from a water and energy use study published by the CEC.[37] The electricity intensity factors are reported in units of kilowatt-hours per million gallons of water used, and represent the amount of electricity needed to supply and convey the water from the source, treat the water to usable standards, and distribute the water to individual users.

Solid Waste Energy Use. GHG Emissions related to the solid waste were estimated using CalEEMod, which quantifies the GHG emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon. CalEEMod also quantifies CO_2 emissions associated with the combustion of methane. The default landfill gas concentrations were used as reported in accordance with USEPA AP-42 methodology.

Landscaping Maintenance. The emissions due to landscaping maintenance were calculating using CalEEMod with default options. The emission factors that CalEEMod uses for the landscaping equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps are derived from the EMFAC2011 and also from the CARB's Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment.[38]

CalEEMod uses the square footage of the non-residential building and the number of residential units to derive two emission factors. The first emission factor is for the commercial landscape equipment which is in terms of grams per square foot of non-residential building space per day, and the second emission factor is for the residential landscape equipment which is in terms of grams per dwelling unit per day. These emission factors were then multiplied by the number of summer days or winter days that represent the number of operational days. It was assumed non-residential (e.g., commercial land uses) landscaping equipment would likely only operate during the week (not weekends) so operational days are 250 days per year.

Wastewater Treatment. Wastewater (or sewage) treatment can occur one of three ways - aerobically, in septic tanks or in facultative lagoons. In CalEEMod, the following defaults for sewage treatment options were used: Septic Tank (10.3 percent), Aerobic (87.5 percent), and Facultative (2.2 percent). Solids produced from primary treatment, aerobic processes, or facultative lagoons are typically

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[36]Brummit Energy Associates, *MGA Campus Building Greenhouse Gas Emissions Summary*, August 16, 2014.
[37]CEC, *Refining Estimates of Water-Related Energy Use in California*, December 2006.
[38]CARB, *OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment*, June 13, 2003.

digested in anaerobic digesters. The gas produced by these digesters may be flared or burned in some other simple device, or sent to a cogeneration process for heat recovery and/or electrical generation. The GHGs emitted from each type of wastewater treatment are based on the CARB's Local Government Operations Protocol, which are in turn based on USEPA methodologies, and are taken into account by CalEEMod.[39]

4.4.2 Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact if it would:

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

Until the passage of California Global Warming Solutions Act of 2006 (AB 32), CEQA documents generally did not evaluate GHG emissions or impacts on global climate change attributable to proposed actions. The primary focus of air pollutant analysis in CEQA documents was the emission of criteria pollutants, or those identified in the State and federal Clean Air Acts as being of most concern to the public and government agencies. With the passage of AB 32 and SB 97, a more detailed analysis of GHG emissions is recommended in CEQA documents; however, the analysis of GHGs is different from the analysis of criteria pollutants. Since the half-life of CO_2 is 100 years, GHGs affect the global climate over a relatively long time period. Conversely, for criteria pollutants, significance thresholds are based on daily emissions and the determination of attainment or nonattainment is based on the daily exceedance of applicable ambient air quality standards (e.g., 1-hour and 8-hour exposures).

CAPCOA has identified a number of potential approaches for determining the significance of GHG emissions in CEQA documents. In the CEQA and Climate Change White Paper, CAPCOA suggests making significance determinations on a case-by-case basis when no significance thresholds have been formally adopted by a lead agency.[40] One of the potential approaches identified in the CAPCOA White Paper requires a project to meet a percent reduction target (Threshold 1.1). This target was proposed to be based on the average reduction from BAU emissions identified by CARB as necessary to satisfy the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020.

OPR has recognized that CEQA guidelines have not been adopted to provide guidance as to how climate change is to be addressed under CEQA. OPR also notes that it is continuing to consult with the CARB regarding appropriate thresholds of significance to use for climate change analysis (but that such guidance is not yet available). The following "informal guidance" regarding the following steps for addressing climate change impacts under CEQA: (1) identify and quantify the GHG emissions; (2) assess the significance of the impact on climate change; and (3) if significant, identify alternatives and/or mitigation measures that will reduce impacts below significance.[41]

Although project-specific GHG emissions can be calculated, neither the SCAQMD nor the City of Los Angeles have established any programmatic or project-level significance thresholds for GHG emissions. At this time, GHGs (primarily CO_2) are not regulated as a criteria pollutant and there are no broadly recognized significance criteria for these emissions. Similarly, the 2012 AQMP does not set forth CEQA targets that can be used to determine any potential threshold values for GHG emissions.

[39] CARB, *Local Government Operations Protocol. Chapter 10: Wastewater Treatment Facilities*, 2008.
[40] CAPCOA, *CEQA and Climate Change White Paper*, January 2008.
[41] California Office of Planning and Research, CEQA *and Climate Change: Addressing Climate Change through California Environmental Quality Act Review*, June 2008.

Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, it is speculative to identify the specific impact, if any, to global climate change from one project's incremental increase in global GHG emissions. Pending the establishment of Statewide thresholds of significance for GHG emissions, the Lead Agency has elected to evaluate significance on a case-by-case basis. Because a single project's GHGs emissions to affect global climate change is highly speculative, significance analysis is more properly assessed on a cumulative basis. Assessing the significance of a project's contribution to cumulative global climate change involves: (1) determining an inventory of the project's GHG emissions; and (2) considering project consistency with applicable emission reduction strategies and goals, such as those set forth by AB 32.

As discussed above, in December 2007, CARB approved a total Statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO_2e. CARB revised the 2020 Statewide limit to 431 million metric tons of CO_2e, an approximately 1 percent increase from the original estimate.[42] The 2020 BAU forecast in the update is 509 million metric tons of CO_2e. The State would need to reduce those emissions by 15.3 percent to meet the 431 million metric tons of CO_2e 2020 limit.

Based on the foregoing, in addition to the two Appendix G thresholds, the proposed project would normally be judged to produce a significant or potentially significant effect to GHGs and global climate change if activities were to:

Impede the State's ability to achieve the reduction to 1990 levels in GHG emissions required by AB 32. An impediment to GHG reduction goals of AB 32 would occur if emissions would not achieve a 15.3 percent BAU reduction goal.

4.5 IMPACTS

One of the objectives of the project is to, "provide a sustainable development consistent with the principles of smart growth and LEED standards including sustainable design features, renewable energy, mixed uses, LID stormwater controls and other features." Key components of project design (Project Design Features) that would reduce GHG emissions are: mixed-use, energy efficiency, use of solar power, Transportation Demand Management and project shuttle service.

The proposed project would incorporate solar power in the design (on the roof of the MGA building) that would result in the project meeting some of the on-site demand for energy through renewable power that would reduce the demand for power from non-renewable sources. As discussed above, transportation is a major source of GHG emissions. The proposed project would address reductions in transportation-related GHG emissions through a mix of uses that would reduce trips and trip lengths. For example, it is anticipated that some workers would live on-site and some on-site residents and workers would make use of on-site facilities (e.g., day care, restaurants, and other services). In addition, the project includes a circulating shuttle that would be available to residents and workers alike that would connect to nearby transit stations and work centers. These components are integral parts of the project design that address the project objective to be sustainable, and would serve to substantially reduce GHG emissions consistent with applicable plans and polices.

GHG emissions were estimated for BAU and proposed project scenarios. As discussed above under methodology, BAU emissions were based on 2008 Building Energy Standards, which were used by CARB to establish the AB 32 reduction goals. The proposed project analysis includes implementation of 2013 Building Energy Standards, as required by Title 24 regulations.

Table 4-3 presents unmitigated GHG emissions for BAU and the proposed project including compliance with 2013 Building Energy Standards but not including PDFs that would substantially reduce GHG emissions.

[42] CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, May 2014.

TABLE 4-3: GHG EMISSIONS - WITHOUT PROJECT DESIGN FEATURES			
	Carbon Dioxide Equivalent (Metric Tons Per Year)		
Source	**BAU**	**MGA Mixed-Use Campus Without PDF that Reduce GHG**	**Percent Difference**
FUTURE WITH PROJECT CONDITIONS (2019)			
ONE-TIME EMISSIONS			
Construction	145	145	0%
BUILDOUT EMISSIONS			
Non-Residential Energy	1,595	1,389	13%
Residential Energy	2,134	1,785	16%
Non-Building Energy (e.g., Parking Lights)	497	282	43%
Water Cycle Energy	645	645	0%
Solid Waste Energy	261	261	0%
Mobile Sources	10,202	10,202	0%
Landscaping Maintenance	12	12	0%
TOTAL	15,491	14,721	5.0%
SOURCE: Brummit Energy Associates, *MGA Campus Building Greenhouse Gas Emissions Summary*, August 16, 2014; TAHA, 2014.			

The proposed project with PDFs would generate 5.0 percent fewer emissions than BAU under the future plus project scenarios. The reduction would result from the implementation of 2013 Building Energy Standards. The 5.0 percent GHG reduction would not meet the 15.3 percent BAU requirement necessary to achieve AB 32 mandates.

Without PDFs that reduce GHG emissions, the proposed project would result in a significant impact related to GHG emissions and consistency with GHG reduction plans.

4.6 PROJECT DESIGN FEATURES

As detailed in the Traffic Study, the project includes PDFs to reduce trips (project shuttles and Transportation Demand Management). The related PDFs include:

PDF-III.K-2 Metro transit and LADOT DASH no longer serve the project site, the foundation of the start-up multi-mode program the applicant shall implement is to provide a site-serving transit service with the implementation of a private shuttle route to connect residents and employees to nearby employment centers, transit stations and commercial retail centers.

Project Shuttles

A shuttle route shall be created to mitigate the peak hour traffic impacts. The shuttle shall be available to serve the site during mid-day and evening hours to provide residents and employees more mobility choices throughout the day. This will allow residents and employees to be car-free if desired. The route is targeted to the Metro Orange Line and the Chatsworth Metrolink Station. The peak hour routes will allow residents and employees to take shuttles for work and non-work trips and provide connections to train and bus stations at the Metro Chatsworth Orange Line/Metro link Station. Limited stops at major transfer points can be worked out with LADOT and Metro to also provide the necessary connections to local Chatsworth transit.

The shuttle shall provide 20 to 30-minute headways during the morning and afternoon peak hour to the nearby transit stations and work centers. Mid-day and off-peak schedules will be more demand-responsive providing viable and convenient transit options for MGA residents and employees.

- Shuttle will be equipped with bike racks to promote the bike usage program. Note that DASH service does not currently provide bike racks.
- Shuttle advertising will promote the bike share program.

PDF-III.K-3 The applicant proposes to provide a full Transportation Demand Management (TDM) program and will create a multi-modal hub at the MGA campus. The TDM program will include bike and car share programs and other TDM programs such as on-site day care for both MGA residents and employees as well as an employee cafeteria and a satellite work center for residents who choose to telecommute. The TDM program will also include incentives to reduce trips and disincentives to discourage driving alone (corporate culture, marketing/information, promotional activities, subsidy to employees who ride transit, cash equivalent of parking subsidy, alternative work arrangements); see Appendix H for the full details of the TDM program. The effectiveness of the TDM program will be monitored after the first year of occupancy and thereafter as required by The Department of City Planning.

These features were considered in the above analysis and would also reduce GHG emissions.[43] While they are integral components of the project, they would be monitored as mitigation measures to ensure that they are fully implemented and are as effective as anticipated. The following Air Quality PDF is also applicable to the GHG analysis.

PDF-AQ-1 The proposed project shall reduce its energy usage by implementing Project Design Features that would include, at a minimum, the following measures, or equivalent measures capable of achieving the same results:

- Installation of energy efficient heating and cooling systems, equipment, and control systems.
- Installation of efficient lighting and lighting control systems.
- Installation of light colored “cool” roofs to more effectively reflect the sun’s energy from the roof’s surface to reduce the roof surface temperature, and use of shade structures such as awnings or canopies around soundstages and mills to reduce the heat island effect.
- Incorporation of energy saving features into building design, as appropriate (e.g., use of passive controls, shading, solar energy, ventilation, appropriate building materials, etc.).
- Prohibition of HVAC, refrigeration, and fire suppression equipment that contains banned chlorofluorocarbons.
- Use of Energy Star appliances.
- Use of photovoltaic technology.

4.7 REGULATORY COMPLIANCE MEASURES

RC GHG-1 The proposed project shall comply with 2013 Building Energy Standards, as required by Title 24 regulations.

4.8 MITIGATION MEASURES

No mitigation measures are required.

4.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

PDF-AQ-1 would reduce energy use beyond 2013 Building Energy Standards through the implementation of high efficiency equipment and systems. These include high efficiency water-cooled centrifugal chillers, primary-variable chilled-hot water pumping, and variable speed heating hot water pumping. The project would also include solar panels, which would generate approximately 236,250 kilowatt-hours per year of electricity. The Brummitt Energy Associates Inc. analysis includes a

[43] Overland Traffic Consultants, Inc., *Traffic Impact Analysis for a Proposed Mixed-Use Development*, February 5, 2014 and VMT analysis prepared by Crain and Associates.

detailed comparison of the PDFs that would reduce energy use from BAU (e.g., photovoltaic cells and more efficient cooling systems).[44] It is estimated that the proposed project would result in the use of 9,272,126 kilowatt-hours per year of electricity and 91,653 therms per year of electricity. The electricity use is a 20 percent reduction from BAU, and the natural gas use is a 5.3 percent reduction from BAU.

As detailed in project design features, PDF-III.K-2 and PDF-III.K-3 include project shuttles and a Transit Demand Management Program that would reduce VMT, by encouraging bicycle, pedestrian and transit use by including pedestrian and bicycle amenities in the proposed project, and through strategic parking fees. It is estimated that the BAU and proposed project scenarios would generate a daily VMT of 69,942. After implementation of the project shuttles and the Transit Demand Management Program, the proposed project would generate a daily VMT of 56,261, an approximately 20 percent reduction below BAU.

Table 4-4 presents GHG emissions for BAU and the project with design features that reduce GHG. The proposed project would generate 18.3 percent fewer emissions than BAU, which would exceed the 15.3 percent BAU reduction to achieve AB 32 mandates. Therefore, the proposed project is considered to result in a less-than-significant impact related to GHG emissions and consistency with GHG reduction plans.

TABLE 4-4: GHG EMISSIONS - WITH PROJECT DESIGN FEATURES

Source	Carbon Dioxide Equivalent (Metric Tons Per Year) BAU	MGA Mixed-Use Campus With PDF that reduces GHG	Percent Difference
ONE-TIME EMISSIONS			
Construction	145	145	0%
BUILDOUT EMISSIONS			
Non-Residential Energy	1,595	1,389	13%
Residential Energy	2,134	1,785	16%
Non-Building Energy (e.g., Parking Lights)	497	282	43%
Water Cycle Energy	645	645	0%
Solid Waste Energy	261	261	0%
Mobile Sources	10,202	8,207	20%
Landscaping Maintenance	12	12	0%
Solar Panels	-	(76)	-
TOTAL	15,491	12,650	18.3%

SOURCE: Brummit Energy Associates, *MGA Campus Building Greenhouse Gas Emissions Summary*, August 16, 2014; TAHA, 2014.

4.10 CUMULATIVE IMPACTS

Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. The analysis presented above is also applicable to the cumulative analysis. As concluded in previous section, the proposed project would not meet the Statewide GHG reduction goals without implementation of PDFs and/or mitigation measures. However, after implementation of PDFs and Mitigation Measures, the proposed project would contribute to a cumulatively considerable impact.

[44] Brummit Energy Associates, *MGA Campus Building Greenhouse Gas Emissions Summary*, August 16, 2014.

5.0 NOISE AND VIBRATION

This document evaluates noise and vibration impacts associated with the implementation of the proposed project. The noise and vibration analysis assesses the following: existing noise and vibration conditions at the project site and its vicinity, as well as short-term construction and long-term operational noise and vibration impacts associated with the proposed project. Mitigation measures for potentially significant impacts are recommended, where appropriate.

5.1 NOISE AND VIBRATION CHARACTERISTICS AND EFFECTS

5.1.1 Noise

Characteristics of Sound

Sound is technically described in terms of the loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The "A-weighted scale," abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. **Figure 5-1** provides examples of A-weighted noise levels from common sounds.

Noise Definitions

This noise analysis discusses sound levels in terms of Community Noise Equivalent Level (CNEL) and Equivalent Noise Level (L_{eq}).

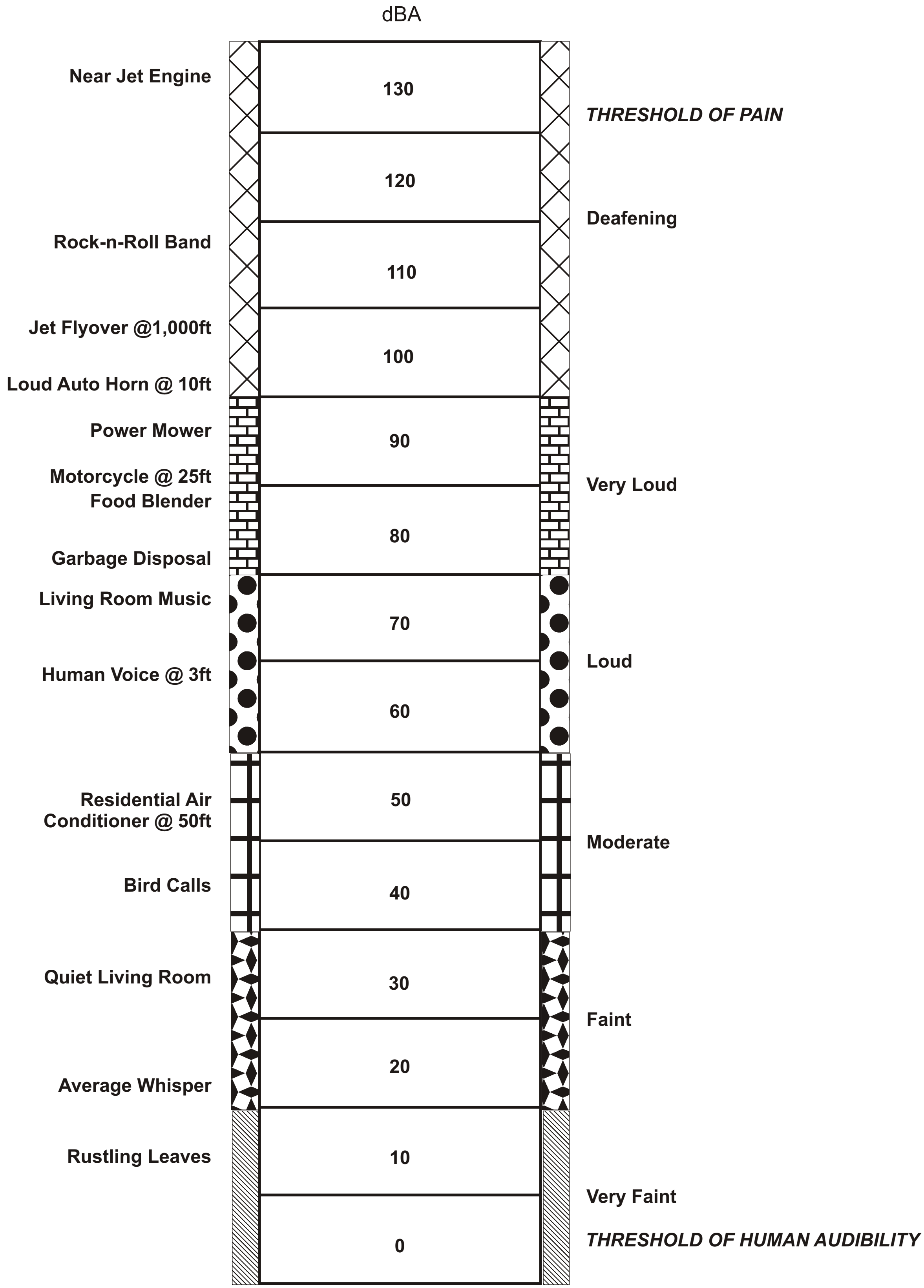
Community Noise Equivalent Level (CNEL). CNEL is an average sound level during a 24-hour period. CNEL is a noise measurement scale, which accounts for noise source, distance, single event duration, single event occurrence, frequency, and time of day. Human reaction to sound between 7:00 p.m. and 10:00 p.m. is as if the sound were actually 5 dBA higher than if it occurred from 7:00 a.m. to 7:00 p.m. From 10:00 p.m. to 7:00 a.m., humans perceive sound as if it were 10 dBA higher due to the lower background level. Hence, the CNEL is obtained by adding an additional 5 dBA to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and 10 dBA to sound levels in the night from 10:00 p.m. to 7:00 a.m. Because CNEL accounts for human sensitivity to sound, the CNEL 24-hour figure is always a higher number than the actual 24-hour average.

Equivalent Noise Level (L_{eq}). L_{eq} is the average noise level on an energy basis for any specific time period. The L_{eq} for one hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

Sound Exposure Level (SEL). The most common measure of cumulative noise exposure for single-event noise is the Sound Exposure Level (SEL). SEL is the sum of the sound energy over the duration of a noise event. It can be considered as an equivalent noise event with one-second duration. Because the SEL is normalized to one second, it is almost always larger in magnitude than the maximum noise level for the event. Also, the fact that it is a cumulative measure means that a higher SEL can result from either a louder or longer event, or some combination.

Effects of Noise

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment range from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person.



SOURCE: Cowan, James P., *Handbook of Environmental Acoustics*

FIGURE 5-1

A-WEIGHTED DECIBEL SCALE

Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of work or human activity that is exposed to the noise source.

Audible Noise Changes

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and would likely evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," will decrease by approximately 6 dBA over hard surfaces (e.g., reflective surfaces such as parking lots or smooth bodies of water) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces such as soft dirt, grass, or scattered bushes and trees) for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise generated by a mobile source will decrease by approximately 3 dBA over hard surfaces and 4.8 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible where there is a direct line-of-sight. Barriers, such as walls, berms, or buildings, that break the line-of-sight between the source and the receiver greatly reduce noise levels from the source since sound can only reach the receiver by bending over the top of the barrier. Sound barriers can reduce sound levels by up to 20 dBA. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

5.1.2 VIBRATION

Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and heavy earth-moving equipment.

Vibration Definitions

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.[45]

Effects of Vibration

High levels of vibration may cause physical personal injury or damage to buildings. However, groundborne vibration levels rarely affect human health. Instead, most people consider groundborne vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of

[45] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

groundborne vibration can damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration (e.g., electron microscopes). To counter the effects of groundborne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts.

Perceptible Vibration Changes

In contrast to noise, groundborne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 RMS or lower, well below the threshold of perception for humans, which is around 65 RMS.[46] Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

5.2 REGULATORY SETTING

5.2.1 Noise

Noise Element of the General Plan

The City of Los Angeles has developed a Noise Element of the General Plan to guide in the development of noise regulations.[47] It addresses noise mitigation regulations, strategies and programs and delineates federal, State, and City jurisdiction relative to rail, automotive, aircraft and nuisance noise. Programs included in the Noise Element that are relevant to the proposed project include:

- For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, as defined by this chapter, require mitigation measures, as appropriate, in accordance with CEQA and City procedures.
- When issuing discretionary permits for a proposed noise-sensitive use (as defined by this chapter) or a subdivision of four or more detached single-family units and which use is determined to be potentially significantly impacted by existing or proposed noise sources, require mitigation measures, as appropriate, in accordance with procedures set forth in the CEQA so as to achieve an interior noise level of a CNEL of 45 dB, or less, in any habitable room, as required by Los Angeles Municipal Code Section 91.
- Use, as appropriate, the “Guidelines for Noise Compatible Land Use” (**Table 5-1**), or other measures that are acceptable to the city, to guide land use and zoning reclassification, subdivision, conditional use and use variance determinations and environmental assessment considerations, especially relative to sensitive uses, as defined by this chapter, within a CNEL of 65 dB airport noise exposure areas and within a line of sight of freeways, major highways, railroads or truck haul routes.

City of Los Angeles Municipal Code - Noise Regulations

The City of Los Angeles has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise sensitive land uses. Los Angeles Municipal Code (LAMC) Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited) indicates that no construction or repair work shall be performed between the hours of 9:00 p.m. and 7:00 a.m., since such activities would generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment or other place of residence.

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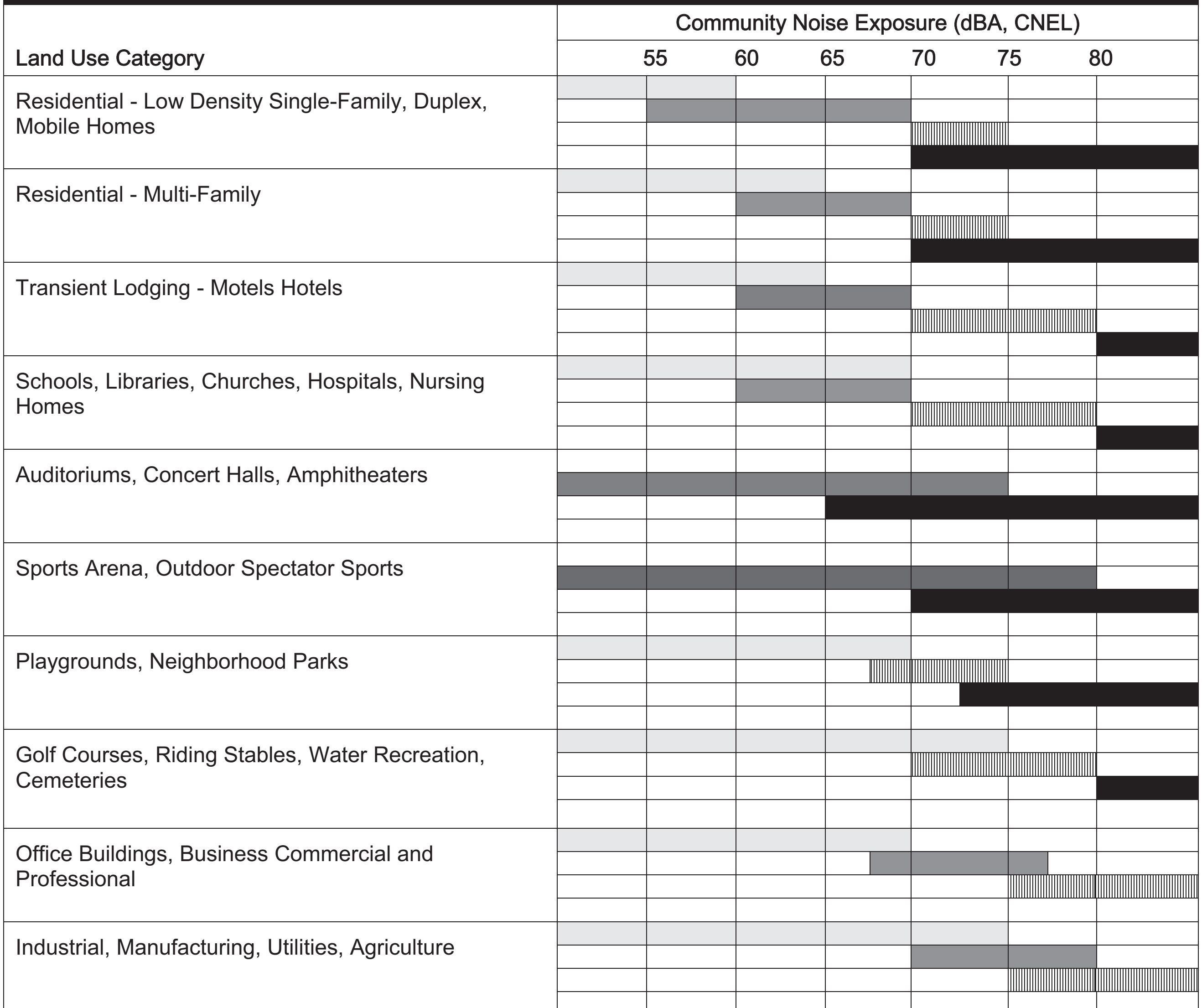
[46] *Ibid.*
[47] City of Los Angeles, *Noise Element of the Los Angeles City General Plan*, February 3, 1999.

TABLE 5-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.

Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable - New construction or development should generally not be undertaken.

SOURCE: California Office of Noise Control, Department of Health Services.

No person, other than an individual home owner engaged in the repair or construction of his/her single-family dwelling, shall perform any construction or repair work of any kind or perform such work within 500 feet of land so occupied before 8:00 a.m. or after 6:00 p.m. on any Saturday or on a federal holiday, nor at any time on any Sunday. Under certain conditions, the City may grant a waiver to allow limited construction activities to occur outside of the limits described above.

LAMC Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools) also specifies the maximum noise level of powered equipment or powered hand tools. Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

City of Los Angeles Municipal Code – Zoning Regulations

The City's planning and zoning code (LAMC Section 11 et seq.) contains a variety of provisions that directly or indirectly mitigate noise impacts on or impacts that are associated with, different types of land uses. Permit processing is guided by the General Plan, especially the community plans which together are the City's Land Use Element. The plans designate appropriate land use (zoning) classifications. The noise ordinance guides land use considerations by setting maximum ambient noise levels for specific zones.

Conditional use permits (LAMC Section 12.24) allow the City to assess potential use impacts and impose conditions to mitigate noise impacts. Conditional use permits are required in certain zones for various land uses including, but not limited to, schools, churches, alcohol sales, parks, mixed-use development, and automobile repair facilities. In most cases the uses are allowed-by-right in less restrictive zones. Some are prohibited entirely in residential zones. The permitting procedures include site investigations, notice to neighbors and hearings to assist decision makers in determining if the use should be permitted and, if permitted, allow imposition of appropriate conditions of approval. Typical conditions include specific site design, setbacks, use limitations on all or parts of the site, walls and hours of operation so as to minimize noise and other impacts.

The authority to revoke, discontinue a use or to impose nuisance abatement conditions on established uses has become a major tool for reducing nuisance noise. Use permits may be revoked by the City for nuisance (including disturbance of the peace) or noncompliance with conditions of a conditional use permit. In addition, the City may impose operational conditions on existing commercial or industrial uses that are deemed a nuisance, including for excessive noise or disturbance of the peace (LAMC Section 12.21-A.15). These two procedures have been increasingly utilized in recent years to encourage owners to operate activities on their properties in a manner that is compatible with adjacent uses, particularly residential uses.

Federal Interagency Committee on Aviation Noise

The Federal Interagency Committee on Aviation Noise (FICAN) has published a study that established a relationship between single event noise and awakenings.[48] Although the proposed project does not generate or expose people to aviation activity, the study is applicable to train noise events. The report uses SEL to assess the percent of the population that would be awakened by a single, loud event. For example, the ten percent awakening level is 81 dBA SEL.

5.2.2 Vibration

There are no adopted City or State standards for vibration.

[48] Federal Interagency Committee on Aviation Noise, *Effects of Aviation Noise on Awakenings from Sleep*, June 1997.

5.3 EXISTING SETTING

5.3.1 Existing Noise Environment

The existing noise environment of the project area is characterized by vehicular and train traffic and noises typical to a moderately dense industrial area. Existing sources of noise include the Southern Pacific Railroad Right of Way and industrial activity. Sound measurements were taken using a SoundPro DL Sound Level Meter between 11:15 a.m. and 12:00 p.m. on February 4, 2014 to determine existing ambient daytime noise levels in the project vicinity. These readings were used to establish existing ambient noise conditions and to provide a baseline for evaluating noise impacts. As shown in **Table 5-1**, existing ambient sound levels in the project area were monitored as 59.6 and 62.4 dBA L_{eq}. A 24-hour sound measurement was taken from 1:00 p.m. Tuesday, February 4, 2014 to 1:00 p.m. Wednesday, February 5, 2014. The monitor was placed at the southwest corner of the project site in order to accurately characterize rail noise. The recorded CNEL was 65.6 dBA. During the 24-hour monitoring, a maximum noise level of 99.9 dBA L_{eq} was observed at 10:00 a.m. This maximum level was likely generated by a train passing by the site on the Southern Pacific Railroad Right of Way. Noise monitoring locations are shown in **Figure 5-2**.

TABLE 5-2: EXISTING NOISE LEVELS			
Key to Figure 5-2	**Noise Monitoring Location**	**Distance from Project Site (Feet)**	**Sound Level (dBA, L_{eq})**
1	Project Site (24-hour)	N/A	65.6
2	Residences along Plummer St.	1,300	59.6
3	Residences along Nordhoff St.	1,500	62.4
SOURCE: TAHA, 2014.			

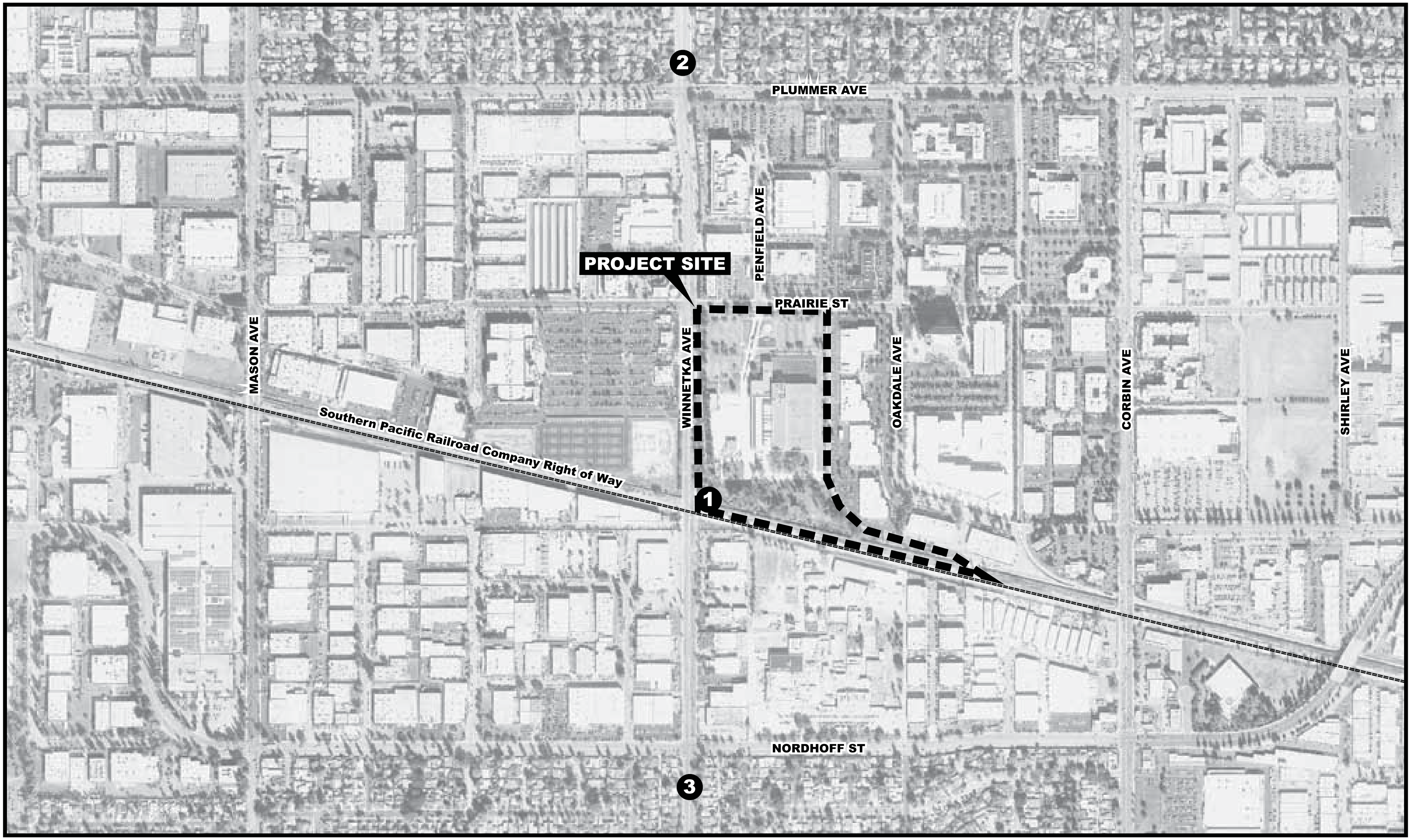
5.3.2 Existing Vibration Environment

Similar to the environmental setting for noise, the vibration environment is dominated by traffic from nearby roadways and the railroad tracks immediately south of the project site. Heavy trucks can generate vibrations that vary depending on vehicle type, weight, and pavement conditions. As heavy trucks typically operate on major streets, existing vibration in the project vicinity is largely related to heavy truck traffic on the surrounding roadway network. Based on field observations, vibration levels from adjacent roadways and the rail line are not perceptible at the project site.

5.3.3 Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. As shown in **Figure 5-3**, sensitive receptors near the project site include the following:

- Pacific Movie Theater located approximately 1,000 feet to the west of Winnetka Avenue
- Single-family residences located 1,300 feet to the north of Plummer Street
- Single-family residences located approximately 1,500 feet to the south of Nordhoff Street
- The "Village" residential development located approximately 1,900 feet to the east at the corner of Corbin Avenue and Prairie Street



LEGEND:

Project Site

\# Noise Monitoring Locations

1. 24-hour Project Site Location
2. Residences along Plummer St
3. Residences along Nordhoff St

APPROX. SCALE

0 425 850 FEET

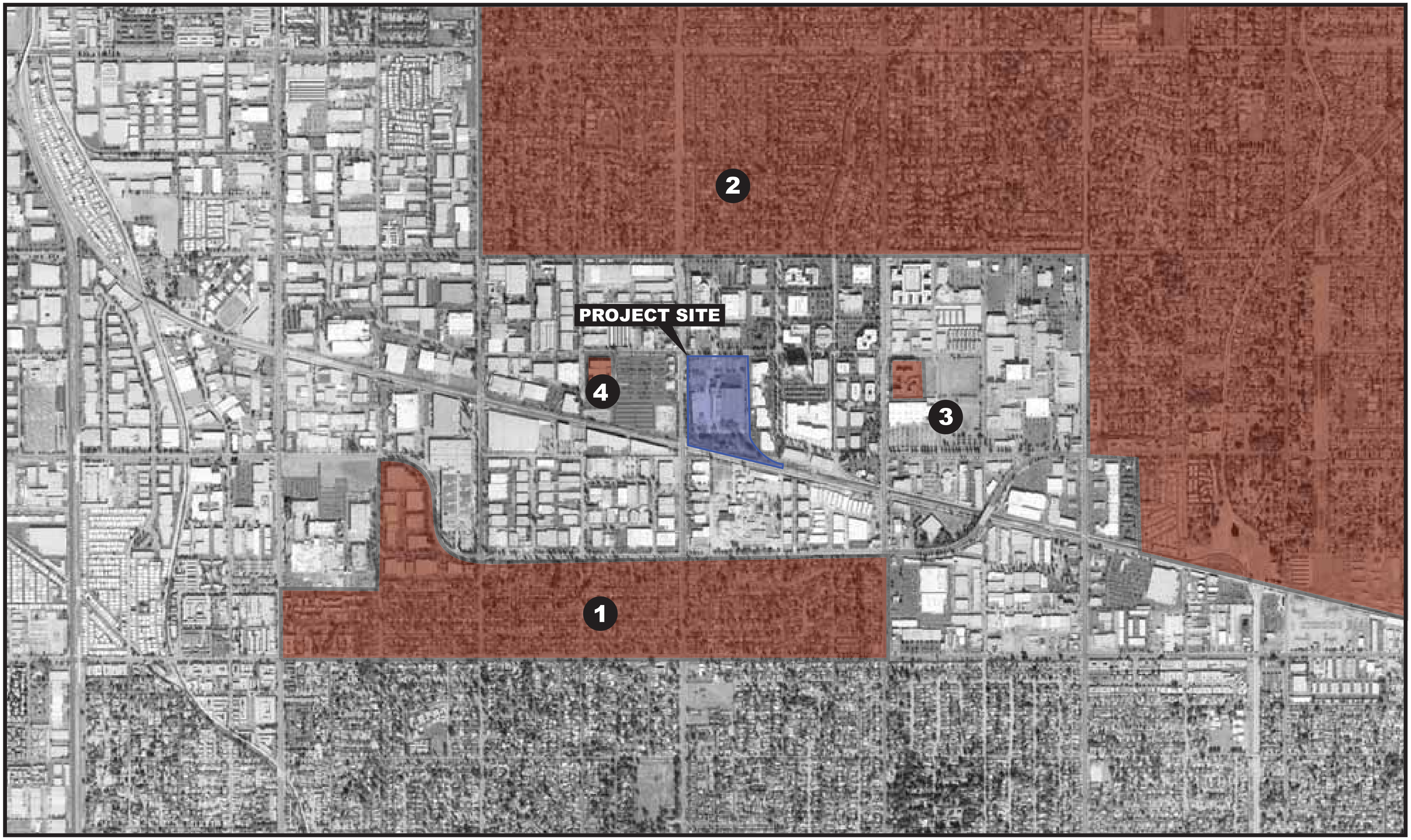
N

SOURCE: Google Earth and TAHA, 2013.

taha
MGA Campus Project
Air Quality, Greenhouse Gas, and Noise Impact Report
ENVIRONMENTAL PLANNING ASSOCIATES
taha 2013-011

FIGURE -

NOISE MONITORING LOCATIONS



LEGEND:

Project Site

Sensitive Receptors

1. Single-Family Residences
2. Single-Family Residences
3. The "Village" Residential Development
4. Pacific Theatres Winnetka

APPROX. SCALE

0 425 850 FEET

N

SOURCE: Google Earth and TAHA, 2014.

taha

taha 2013-011

MGA Campus Project
Air Quality, Greenhouse Gas, and Noise Impact Report

ENVIRONMENTAL PLANNING ASSOCIATES

FIGURE 5-3

SENSITIVE RECEPTOR LOCATIONS

In addition to these existing land uses, a mixed-use development with a residential component is currently under construction approximately 2,000 feet northeast of the project site at the corner of Corbin Avenue and Plummer Street. As this future land use is not within the existing setting, it has been assessed in the far-term operational analysis instead of the near-term construction analysis.

The above sensitive receptors represent the nearest and thus worst-case, residential land uses with the potential to be impacted by the proposed project. Additional sensitive receptors are located further from the project site in the surrounding community and would be less impacted by noise than the above sensitive receptors.

5.4 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

5.4.1 Methodology

The noise and vibration analysis considers construction and operational sources. The noise level during the construction period at each receptor location was calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. Reference noise levels for equipment were provided by the USEPA. Mobile source noise levels were estimated using guidance provided by the Federal Highway Administration. Operational vibration is qualitatively discussed based on guidance in the FTA Transit Noise and Vibration Impact Assessment. Construction vibration levels are estimated using equipment reference levels and propagation formulas provide by the FTA.

5.4.2 Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to noise if it would:

- Expose persons or generate noise in levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; and/or
- Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

The City of Los Angeles has established significance thresholds in its *LA CEQA Thresholds Guide*. The following specific significance thresholds are relevant to the proposed project.

Based on the City of Los Angeles Noise Ordinance (LAMC Chapter XI), the City of Los Angeles *LA CEQA Thresholds Guide* (2006) and the State Land Use Compatibility Matrix,[49] the proposed project would result in significant noise impacts if it would generate noise levels in excess of the following thresholds.

Construction Phase Significance Criteria

A significant construction noise impact would result if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;
- Construction activities lasting more than ten days in a three-month period would exceed existing ambient noise levels by 5 dBA or more at a noise sensitive use; or

[49] California Office of Noise Control, Department of Health Services.

- Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or anytime on Sunday.

Operational Phase Significance Criteria

A significant operational noise impact would result if:

- Ambient noise level measured at the property line of the affected uses increase by 3 decibels CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA or greater noise increase, (see **Table 5-1**); and/or
- Train activity would result in interior noise levels at new residences that exceed 81 dBA SEL.

Vibration Significance Criteria

There are no adopted State or City of Los Angeles vibration standards, but there are Federal guidelines for vibration damage criteria as shown in **Table 5-3.** These criteria are based on the type of building construction. Single–family residential buildings typically are non-engineered timber and masonry buildings and can be exposed to 0.2 inches per second PPV without experiencing damage. In addition to the damage criteria, FTA has established impact criteria related to interference with the operation of theaters (a Pacific Theater complex is located approximately 1,000 feet west of the western project boundary). The operational interference impact criteria for theaters, based on frequent events such as construction activity, is 72 VdB.[50]

TABLE 5-3: VIBRATION DAMAGE CRITERIA	
Building Category	**PPV (Inches Per Second)**
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.	

Based on the above guidelines, a significant impact related to operational activity would occur if:

- Vibration levels would exceed the building damage standards listed in **Table 3-2**; and/or
- Vibration would exceed 72 VdB at the Pacific Theater complex.

5.5 IMPACTS

5.5.1 Construction

Noise

Construction of the proposed project would result in temporary increases in ambient noise levels in the project area on an intermittent basis. The increase in noise would likely result in a temporary annoyance to nearby residents during the approximate 30-month construction schedule. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Construction activities typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed

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[50] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006

in **Table 5-4**. The table shows noise levels at distances of 50 and 100 feet from the construction noise source.

TABLE 5-4: MAXIMUM NOISE LEVELS OF COMMON CONSTRUCTION MACHINES		
	Noise Level (dBA) /a/	
Noise Source	**50 Feet**	**100 Feet**
Jackhammer	90	84
Crane	88	82
Street Paver	87	81
Backhoe	84	78
Street Compressor	81	75
Front-end Loader	80	74
Grader	87	81
Idling Haul Truck	89	83
Cement Mixer	82	76
Impact Pile Driving	101	95
Auger Drilling	77	71

/a/ Assumes a 6-dBA drop-off rate for noise generated by a "point source" and traveling over hard surfaces. Actual measured noise levels of the equipment listed in this table were taken at distances of ten and 30 feet from the noise source.
SOURCE: USEPA, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971.

The noise levels shown in **Table 5-5** take into account the likelihood that more than one piece of construction equipment would be in operation at the same time and lists the typical overall noise levels that would be expected for each phase of construction. The highest noise levels are expected to occur during the grading/excavation and finishing phases of construction. A typical piece of noisy equipment is assumed to be active for 40 percent of the eight-hour workday (consistent with the USEPA studies of construction noise), generating a noise level of 89 dBA L_{eq} at a reference distance of 50 feet.

TABLE 5-5: TYPICAL OUTDOOR CONSTRUCTION NOISE LEVELS	
Construction Phase	**Noise Level At 50 Feet (dBA)**
Ground Clearing	84
Grading/Excavation	89
Foundations	78
Structural	85
Finishing	89

SOURCE: USEPA, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971.

The noise level during the construction period at each receptor location was calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. The estimated construction noise levels at sensitive receptors are shown in **Table 5-6**. Noise levels related to construction activity would not exceed the 5 dBA significance threshold at sensitive receptors. The proposed project would not result in a significant impact.

TABLE 5-6: CONSTRUCTION NOISE LEVELS					
Sensitive Receptor	Distance (feet) /a/	Maximum Construction Noise Level (dBA) /b/	Monitored Existing Ambient (dBA, L_{eq}) /c/	Add New Ambient (dBA, L_{eq}) /d/	Increase /e/
Pacific Theaters - 9201 Winnetka Ave.	1,000	53.0	59.6	60.5	0.9
Single-Family Residences along Plummer St.	1,300	50.7	59.6	60.1	0.5
Single-Family Residences along Nordoff St.	1,500	49.5	62.4	62.6	0.2
The "Village" Mixed-Use Development	1,900	47.4	59.6	59.9	0.3

/a/ Distance of noise source from receptor.
/b/ Construction noise source's sound level at receptor location, with distance and building adjustment.
/c/ Pre-construction activity ambient sound level at receptor location.
/d/ New sound level at receptor location during the construction period, including noise from construction activity.
/e/ An incremental noise level increase of 5 dBA or more would result in a significant impact.
SOURCE: TAHA, 2014.

Vibration

Heavy-duty equipment activity on the project site would generate vibration. As shown in **Table 5-7**, typical heavy-duty equipment (e.g., a large bulldozer) generates vibration levels of 0.089 inches per second PPV at a distance of 25 feet. The closest building that could experience damage from heavy equipment activity is a commercial building located approximately 65 feet to the east of the project site. This building could experience vibration level of 0.03 inches per second PPV. Vibration levels would not exceed the potential building damage threshold of 0.3 inches per second PPV. The Pacific Movie Theater complex is particular sensitive to increased vibration due to sensitive film equipment. At a location approximately 1,000 feet west of the project site, the theater could experience a vibration levels up to 39 VdB during construction activity. This level would be well below the operational interference impact criteria for theaters of 72 VdB. Therefore, the proposed project would result in a less-than-significant related to construction vibration.

TABLE 5-7: VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT		
Equipment	PPV at 25 feet (Inches/Second)	L_V at 25 feet (VdB)
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

SOURCE: Federal Transit Authority, *Transit Noise and Vibration Impact Assessment*, May 2006.

5.5.2 Operations

Noise

Vehicular Noise. The predominant noise source for the proposed project is vehicular traffic. According to the traffic impact study prepared by Overland Traffic Consultants, the proposed project would generate 8,157 net daily vehicle trips.[51]

[51]Overland Traffic Consultants, Inc., *Traffic Impact Analysis for a Proposed Mixed-Use Development*, February 5, 2014.

Table 5-8 shows peak hour mobile source noise levels along the analyzed roadway segments for existing and existing plus project conditions. The greatest project-related noise increase would be 1.9 dBA L_{eq} along Prairie Street between Winnetka Avenue and Corbin Avenue. This would not exceed the most conservative roadway noise threshold of 3-dBA. Therefore, the proposed project would result in a less-than-significant related to existing plus project mobile noise levels.

TABLE 5-8: OPERATIONAL MOBILE SOURCE NOISE LEVELS – EXISTING PLUS PROJECT CONDITIONS

Roadway	CNEL Existing	CNEL Existing Plus Project	CNEL Project Impact
Winnetka Ave. between Nordhoff St. and Parthenia St.	68.8	69.6	0.8
Winnetka Ave. between Plummer St. and Lassen St.	67.3	67.9	0.6
Plummer St. between Winnetka Ave. and Mason Ave.	67.3	67.4	0.1
Nordhoff St. between Winnetka Ave. and Corbin Ave.	67.1	67.3	0.2
Prairie St. between Winnetka Ave. and Corbin Ave.	63.4	65.3	1.9

SOURCE: TAHA, 2014.

Table 5-9 shows peak hour mobile source noise levels along the analyzed roadway segments for future no project and future with project conditions. The greatest project-related noise increase would be 1.1 dBA L_{eq} along Prairie Street between Winnetka Avenue and Corbin Avenue. This would not exceed the most conservative roadway noise threshold of 3-dBA. Therefore, the proposed project would result in a less-than-significant related to future with project mobile noise levels.

TABLE 5-9: OPERATIONAL MOBILE SOURCE NOISE LEVELS – FUTURE WITH PROJECT CONDITIONS

Roadway	CNEL Future No Project	CNEL Future With Project	CNEL Project Impact
Winnetka Ave. between Nordhoff St. and Parthenia St.	69.7	70.1	0.4
Winnetka Ave. between Plummer St. and Lassen St.	67.8	68.3	0.5
Plummer St. between Winnetka Ave. and Mason Ave.	67.9	68.0	0.1
Nordhoff St. between Winnetka Ave. and Corbin Ave.	69.4	69.5	0.1
Prairie St. between Winnetka Ave. and Corbin Ave.	65.0	66.1	1.1

SOURCE: TAHA, 2014.

Stationary Noise. Potential stationary noise sources related to the long-term operations of the proposed project include mechanical equipment, pool areas, roof decks and BBQ areas, an amphitheater, loading docks, and a transit plaza. Mechanical equipment (e.g., HVAC equipment) would be designed so as to be located within an enclosure or confined to the rooftop of the proposed structure. HVAC equipment typically generates noise level of approximately 60 dBA L_{eq} at 50 feet. Mechanical equipment would be screened from view as necessary to comply with provisions of the Municipal Code for on-site stationary sources. Operation of mechanical equipment would not be anticipated to increase ambient noise levels by 5 dBA or more.

Other sources of community noise, including pools and roof decks, which would be located at all residential buildings, and an amphitheater, which would be located central to the project site. Roof decks would not include amplified sound and events at the amphitheater will be limited to one per month during off-peak hours. In addition, pools would be located on the roof decks of residential buildings and are a localized noise source that would not be audible at the nearest single-family residences located 1,300 feet to the north of Plummer Street. Multi-level buildings on and off the project site would act as substantial barriers between these sources and off-site sensitive land uses. It is not anticipated that these uses would generate audible noise (i.e., 3 dBA above ambient) at the property line of sensitive uses.

The proposed project would include a private shuttle stop to serve the site during mid-day and evening hours to provide residents and employees more mobility choices throughout the day. The operational intensity would be much less than a traditional transit center. However, the FTA has stated that a transit center would potentially impact sensitive land uses within 225 feet of bus activity.[52] This screening distance is based on 20 buses per peak hour, which is more than the number of hourly buses anticipated to use the transit plaza. There are no existing sensitive land uses within 225 feet of the proposed private shuttle stop. Therefore, the proposed project would result in a less-than-significant related to the shuttle stop and other stationary sources of noise.

In general, the proposed project would result in the creation of a mixed-use campus that will be distinctive from the largely commercial and industrial uses surrounding the project site. There are no unusual sources of stationary noise that would impact the adjacent commercial and industrial uses, or the nearest residences.

Parking Noise. The proposed project would include 1,467 spaces and in structured parking. Parking areas are generally located along the northern, western, and southern boundaries of the project site. Automobile parking activity typically generates a noise level of approximately 58.1 dBA L_{eq} at 50 feet (e.g., tire noise, engine noise, and door slams).[53] The nearest sensitive land use that could be impacted by parking activity would be the Pacific Movie Theater, located approximately 1,000 feet to the west. Project parking would be shielded from the theater by proposed residential units in the same multi-story buildings. In addition, the movie theater has existing expansive surface parking area between the theater building and the project site. It is not anticipated that parking activity would generate audible noise (i.e., 3 dBA above ambient) at the property line of sensitive uses. Therefore, the proposed project would result in a less-than-significant related to parking noise.

Land Use/Noise Compatibility. It is important that new residential land uses are located in noise compatible environments. The City's Guidelines for Noise Compatible Land Uses are shown in Table 5-1, above. A noise measurement taken at the project site indicated that the 24-hour noise level is 65.6 dBA CNEL. This measurement accounted for train activity along the Southern Pacific Railroad Right of Way and nearby industrial activity. The monitored noise level is conditionally acceptable for residential land uses based on City policy. Conditionally acceptable means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features and included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice. As noted in PDF-N-1, below, the project would be constructed to current design standards and regulations, and each unit would include an air conditioning system capable of providing fresh air. The proposed residences, along with associated pools, plazas, roof decks, and other outdoor amenities, would be compatible with the existing community noise levels. Therefore, the proposed project would result in a less-than-significant related to land use and 24-hour noise compatibility.

New residences facing the Southern Pacific Railroad Right-of-Way would be exposed to single-event noise levels associated with train movements. During the 24-hour monitoring period, the loudest recorded SEL was 112.6 dBA. Although the source of noise is not related to aviation activity, the

[52]Federal Transit Authority, *Transit Noise and Vibration Impact Assessment*, May 2006.

[53]The reference parking noise level is based on a series of noise measurements completed 50 feet from vehicles accessing a multi-level parking structure.

Federal Interagency Committee on Aviation Noise has published research related to sleep disturbance and awakenings from loud noise events.[54] Los Angeles World Airports used this research to establish a significance threshold for sleep disturbance. The threshold was established as a ten percent awakening level at 81 dBA SEL.[55] New residential units typically achieve an exterior-to-interior attenuation level of at least 20 dBA with windows closed. This means that for 10 percent of residents to be awakened, the SEL would have to be 101 dBA with windows closed. The parking structure between lower residential units in Building A and the railroad tracks would help attenuate train noise for these units by providing an effective line-of-sight barrier for all but the top floors. Due to its concrete and steel construction, this parking structure could reduce single-event noise by as much as 40 dBA. However, not all of the southerly facing residential units would be effectively shielded by the parking structure, thus exposing them to the highest noise levels from passing trains (upper units in Building A, southerly units in Building B) of 112.6 dBA, which would exceed the significance threshold. Therefore, without mitigation, the proposed project would result in a significant impact related to single-event rail noise.

Vibration

The proposed project would not include significant stationary sources of vibration, such as heavy equipment operations. Operational vibration in the project vicinity would be generated by vehicular travel on the local roadways. However, similar to existing conditions, traffic-related vibration levels would not be perceptible by sensitive receptors. Thus, operational vibration would result in a less-than-significant impact.

5.6 PROJECT DESIGN FEATURES

PDF-N-1: New residential units shall include a fresh air supply system or air conditioning so that windows may be closed, as needed, to reduce noise.

5.7 REGULATORY COMPLIANCE MEASURES

RC-N-1: All construction truck traffic shall be restricted to truck routes approved by the City of Los Angeles Department of Building and Safety, which shall avoid residential areas and other sensitive receptors to the extent feasible.

RC-N-2: The proposed project shall comply with the City of Los Angeles Noise Ordinance (LAMC Chapter XI), and any subsequent ordinances, which prohibits the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.

RC-N-3: Construction and demolition shall be restricted to the hours of 7:00 AM to 6:00 PM Monday through Friday, and 8:00 AM to 6:00 PM on Saturday, and prohibited on all Sundays and federal holidays.

RC-N-4: The proposed project shall comply with the LAMC Section 91.106.4.8, which requires a construction site notice to be provided that includes the following information: job site address, permit number, name and phone number of the contractor and owner or owner's agent, hours of construction allowed by code or any discretionary approval for the site, and City telephone numbers where violations can be reported. The notice shall be posted and maintained at the construction site prior to the start of construction and displayed in a location that is readily visible to the public and approved by the City's Department of Building and Safety.

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[54] Federal Interagency Committee on Aviation Noise, *Effects of Aviation Noise on Awakenings from Sleep*, June 1997.

[55] Los Angeles World Airport, *LAX Master Plan Supplemental Draft EIS/EIR*, June 2003.

5.8 MITIGATION MEASURES

MM-N-1: Materials used in the construction of residential units shall be capable of achieving an exterior-to-interior noise attenuation level of 32 dBA. Such materials may include double-glazed windows.

5.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Construction Phase Noise Impacts

Noise levels related to construction activity would not exceed the 5 dBA significance threshold at sensitive receptors. Regulatory Compliance Measure **RC-N-1** through **RC-N-4** would further ensure that construction noise effects would be reduced. As such, the proposed project would result in a less than significant impact.

Construction Phase Vibration Impacts

As shown in **Table 5-7**, use of heavy equipment (e.g., a bulldozer) generates vibration levels of 0.089 inches per second PPV at a distance of 25 feet. The closest building that could experience damage from heavy equipment activity could experience a vibration level of 0.03 inches per second PPV, substantially the threshold of 0.3 inches per second PPV. The Pacific Theater complex could experience a vibration levels up to 39 VdB during construction activity, substantially below the threshold of 72 VdB. As such, the proposed project would result in a less than significant impact.

Operational Phase Noise Impacts

Mobile sources would not increase noise levels by more than 3 dBA along proximate street segments, operation of mechanical equipment would not be anticipated to increase ambient noise levels by 5 dBA or more, and other stationary noise sources would not exceed ambient noise levels by more than 3 dBA at the closest sensitive receptors. Mitigation Measure **MM-N-1** would ensure that new residents would not result in significant single event sleep disturbance from the Southern Pacific rail line adjacent to the site. Consequently, the project would have a less than significant impact after mitigation.

Operational Phase Vibration Impacts

Operational ground-borne vibration impacts for the proposed project would be less-than-significant.

5.10 CUMULATIVE IMPACTS

Future traffic conditions without and with the proposed project accounted for cumulative impacts from other eight other known projects. Since the noise impacts are generated directly from the traffic analysis results, the future without project and future with project noise impacts analyzed herein reflect cumulative impacts.

Table 5-10 presents the cumulative increase in future traffic noise levels at various intersections (i.e., existing and future with project). The maximum cumulative roadway noise increase would be would be 2.7 dBA L_{eq} and would occur along Prairie Street. Cumulative roadway noise levels would not exceed the 3 dBA threshold increment and would not result in a perceptible change in noise level. Therefore, the proposed project would not result in a cumulatively considerable impact related to roadway noise.

The predominant vibration sources near the project site is heavy truck travel on the local roadways and trains travelling on the railroad tracks immediately south of the project site. Neither the proposed project nor related projects would substantially increase heavy-duty vehicle traffic near the project site and would not cause a substantial increase in heavy-duty trucks on local roadways. The proposed project would not result in a cumulatively considerable impact related to roadway vibration.

TABLE 5-10: CUMULATIVE MOBILE SOURCE NOISE LEVELS			
	CNEL		
Roadway	Existing	Future With Project	Cumulative Impact
Winnetka Ave. between Nordhoff St. and Parthenia St.	68.8	70.1	1.3
Winnetka Ave. between Plummer St. and Lassen St.	67.3	68.3	1.0
Plummer St. between Winnetka Ave. and Mason Ave.	67.3	68.0	0.7
Nordhoff St. between Winnetka Ave. and Corbin Ave.	67.1	69.5	2.4
Prairie St. between Winnetka Ave. and Corbin Ave.	63.4	66.1	2.7
SOURCE: TAHA, 2014.			

APPENDIX A

Air Quality

CalEEMod Output Files

Construction

MGA

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - New schedule

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Trips and VMT - Based on 170,500 cu. ft. of debris

Demolition -

Grading - .

Vehicle Trips - Basd on new traffic study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	95.00
tblConstructionPhase	NumDays	370.00	24.00
tblConstructionPhase	NumDays	370.00	741.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	10.00

tblConstructionPhase	NumDays	35.00	11.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	PhaseEndDate	10/12/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	5/30/2014	5/31/2014
tblConstructionPhase	PhaseEndDate	5/17/2017	5/3/2017
tblConstructionPhase	PhaseEndDate	6/27/2014	6/29/2014
tblConstructionPhase	PhaseEndDate	7/14/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	7/16/2014	7/2/2014
tblConstructionPhase	PhaseStartDate	6/30/2014	6/16/2014
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	1.64	1.58
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.76	0.73
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	11.02
tblVehicleTrips	WD_TR	11.42	11.03
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

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

Year	lb/day										lb/day					
2014	11.7958	90.3737	107.5781	0.1575	19.5947	4.4671	24.0618	8.6374	4.1568	12.7942	0.0000	15,162.6000	15,162.6000	1.9076	0.0000	15,202.6585
2015	7.6889	45.7258	73.2411	0.1311	7.3495	2.3808	9.7303	1.9637	2.2331	4.1967	0.0000	12,121.0740	12,121.0740	1.0879	0.0000	12,143.9197
2016	7.0133	42.4317	68.1301	0.1310	7.3497	2.1936	9.5433	1.9637	2.0564	4.0202	0.0000	11,835.9484	11,835.9484	1.0418	0.0000	11,857.8257
2017	124.2369	39.0460	63.5376	0.1309	7.3500	1.9867	9.3367	1.9638	1.8621	3.8260	0.0000	11,511.4735	11,511.4735	1.0010	0.0000	11,532.4937
Total	**150.7349**	**217.5771**	**312.4869**	**0.5504**	**41.6439**	**11.0282**	**52.6721**	**14.5286**	**10.3084**	**24.8370**	**0.0000**	**50,631.0959**	**50,631.0959**	**5.0382**	**0.0000**	**50,736.8977**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.7958	90.3737	107.5781	0.1575	12.2478	4.4671	16.7149	4.5989	4.1568	8.7557	0.0000	15,162.6000	15,162.6000	1.9076	0.0000	15,202.6585
2015	7.6889	45.7258	73.2411	0.1311	7.3495	2.3808	9.7303	1.9637	2.2331	4.1967	0.0000	12,121.0740	12,121.0740	1.0879	0.0000	12,143.9197
2016	7.0133	42.4317	68.1301	0.1310	7.3497	2.1936	9.5433	1.9637	2.0564	4.0202	0.0000	11,835.9484	11,835.9484	1.0418	0.0000	11,857.8257
2017	124.2369	39.0460	63.5376	0.1309	7.3500	1.9867	9.3367	1.9638	1.8621	3.8260	0.0000	11,511.4735	11,511.4735	1.0010	0.0000	11,532.4937
Total	**150.7349**	**217.5771**	**312.4869**	**0.5504**	**34.2969**	**11.0282**	**45.3251**	**10.4902**	**10.3084**	**20.7985**	**0.0000**	**50,631.0959**	**50,631.0959**	**5.0382**	**0.0000**	**50,736.8977**

	ROG	**NOx**	**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**	**17.64**	**0.00**	**13.95**	**27.80**	**0.00**	**16.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

	ROG	**NOx**	**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	Bridge- Demolition	Demolition	4/1/2014	4/14/2014	5	10	
2	Bridge- Grading	Grading	4/15/2014	4/28/2014	5	10	
3	Bridge- Installation	Building Construction	4/29/2014	5/31/2014	5	24	
4	Demolition	Demolition	6/1/2014	6/29/2014	5	20	
5	Grading	Grading	6/16/2014	6/30/2014	5	11	
6	Site Preparation	Site Preparation	7/1/2014	7/15/2014	5	11	
7	Building Construction	Building Construction	7/2/2014	5/3/2017	5	741	
8	Paving	Paving	5/4/2017	6/1/2017	5	21	
9	Architectural Coating	Architectural Coating	6/2/2017	6/30/2017	5	95	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 1,417,500; Residential Outdoor: 472,500; Non-Residential Indoor: 404,723; Non-Residential Outdoor: 134,908

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Bridge- Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Bridge- Demolition	Excavators	1	8.00	162	0.38
Bridge- Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Bridge- Grading	Excavators	1	8.00	162	0.38
Bridge- Grading	Graders	1	8.00	174	0.41
Bridge- Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Bridge- Installation	Cranes	2	7.00	226	0.29
Bridge- Installation	Generator Sets	1	8.00	84	0.74
Bridge- Installation	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Bridge- Demolition	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Installation	4	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	15.00	0.00	632.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	118.00	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 Bridge- Demolition - 2014

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.4769	24.9340	18.3475	0.0204		1.3541	1.3541		1.2801	1.2801		2,097.7641	2,097.7641	0.5147		2,108.5716
Total	**2.4769**	**24.9340**	**18.3475**	**0.0204**	**0.0000**	**1.3541**	**1.3541**	**0.0000**	**1.2801**	**1.2801**		**2,097.7641**	**2,097.7641**	**0.5147**		**2,108.5716**

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	0.0000	0.0000	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	0.0422	0.0567	0.5905	1.0600e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		95.5358	95.5358	5.8000e-003		95.6575
Total	**0.0422**	**0.0567**	**0.5905**	**1.0600e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**95.5358**	**95.5358**	**5.8000e-003**		**95.6575**

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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.4769	24.9340	18.3475	0.0204		1.3541	1.3541		1.2801	1.2801	0.0000	2,097.7641	2,097.7641	0.5147		2,108.5716
Total	**2.4769**	**24.9340**	**18.3475**	**0.0204**	**0.0000**	**1.3541**	**1.3541**	**0.0000**	**1.2801**	**1.2801**	**0.0000**	**2,097.7641**	**2,097.7641**	**0.5147**		**2,108.5716**

Mitigated 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	0.0000	0.0000	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	0.0422	0.0567	0.5905	1.0600e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		95.5358	95.5358	5.8000e-003		95.6575
Total	**0.0422**	**0.0567**	**0.5905**	**1.0600e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**95.5358**	**95.5358**	**5.8000e-003**		**95.6575**

3.3 Bridge- Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	1.8576	19.5380	10.8185	0.0147		1.1405	1.1405		1.0493	1.0493		1,556.4195	1,556.4195	0.4599		1,566.0782
Total	**1.8576**	**19.5380**	**10.8185**	**0.0147**	**0.0106**	**1.1405**	**1.1511**	**1.1500e-003**	**1.0493**	**1.0504**		**1,556.4195**	**1,556.4195**	**0.4599**		**1,566.0782**

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	0.0422	0.0567	0.5905	1.0600e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		95.5358	95.5358	5.8000e-003		95.6575
Total	**0.0422**	**0.0567**	**0.5905**	**1.0600e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**95.5358**	**95.5358**	**5.8000e-003**		**95.6575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1400e-003	0.0000	4.1400e-003	4.5000e-004	0.0000	4.5000e-004			0.0000			0.0000
Off-Road	1.8576	19.5380	10.8185	0.0147		1.1405	1.1405		1.0493	1.0493	0.0000	1,556.4195	1,556.4195	0.4599		1,566.0782
Total	**1.8576**	**19.5380**	**10.8185**	**0.0147**	**4.1400e-003**	**1.1405**	**1.1447**	**4.5000e-004**	**1.0493**	**1.0497**	**0.0000**	**1,556.4195**	**1,556.4195**	**0.4599**		**1,566.0782**

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	0.0422	0.0567	0.5905	1.0600e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		95.5358	95.5358	5.8000e-003		95.6575
Total	**0.0422**	**0.0567**	**0.5905**	**1.0600e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**95.5358**	**95.5358**	**5.8000e-003**		**95.6575**

3.4 Bridge- Installation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8207	23.4809	11.4859	0.0190		1.3235	1.3235		1.2652	1.2652		1,877.7205	1,877.7205	0.4432		1,887.0267
Total	**2.8207**	**23.4809**	**11.4859**	**0.0190**		**1.3235**	**1.3235**		**1.2652**	**1.2652**		**1,877.7205**	**1,877.7205**	**0.4432**		**1,887.0267**

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	1.4309	13.6967	16.6698	0.0258	0.7434	0.2681	1.0115	0.2117	0.2465	0.4582		2,630.8568	2,630.8568	0.0240		2,631.3598
Worker	3.1204	4.1864	43.6243	0.0785	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,057.7065	7,057.7065	0.4282		7,066.6982
Total	**4.5512**	**17.8831**	**60.2941**	**0.1043**	**7.3494**	**0.3304**	**7.6798**	**1.9636**	**0.3035**	**2.2670**		**9,688.5633**	**9,688.5633**	**0.4521**		**9,698.0580**

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	2.8207	23.4809	11.4859	0.0190		1.3235	1.3235		1.2652	1.2652	0.0000	1,877.7205	1,877.7205	0.4432		1,887.0267
Total	**2.8207**	**23.4809**	**11.4859**	**0.0190**		**1.3235**	**1.3235**		**1.2652**	**1.2652**	**0.0000**	**1,877.7205**	**1,877.7205**	**0.4432**		**1,887.0267**

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	1.4309	13.6967	16.6698	0.0258	0.7434	0.2681	1.0115	0.2117	0.2465	0.4582		2,630.8568	2,630.8568	0.0240		2,631.3598
Worker	3.1204	4.1864	43.6243	0.0785	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,057.7065	7,057.7065	0.4282		7,066.6982
Total	**4.5512**	**17.8831**	**60.2941**	**0.1043**	**7.3494**	**0.3304**	**7.6798**	**1.9636**	**0.3035**	**2.2670**		**9,688.5633**	**9,688.5633**	**0.4521**		**9,698.0580**

3.5 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Fugitive Dust					8.1081	0.0000	8.1081	1.2276	0.0000	1.2276			0.0000			0.0000
Off-Road	4.1727	44.4867	32.8625	0.0346		2.2785	2.2785		2.1306	2.1306		3,602.8635	3,602.8635	0.9594		3,623.0113
Total	**4.1727**	**44.4867**	**32.8625**	**0.0346**	**8.1081**	**2.2785**	**10.3866**	**1.2276**	**2.1306**	**3.3582**		**3,602.8635**	**3,602.8635**	**0.9594**		**3,623.0113**

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	0.7403	11.6047	8.1313	0.0233	0.5505	0.2203	0.7708	0.1507	0.2026	0.3534		2,397.2777	2,397.2777	0.0207		2,397.7127
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	0.0792	0.1063	1.1072	1.9900e-003	0.1677	1.5800e-003	0.1693	0.0445	1.4400e-003	0.0459		179.1296	179.1296	0.0109		179.3578
Total	**0.8195**	**11.7109**	**9.2385**	**0.0253**	**0.7181**	**0.2219**	**0.9400**	**0.1952**	**0.2041**	**0.3993**		**2,576.4073**	**2,576.4073**	**0.0316**		**2,577.0705**

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					3.1622	0.0000	3.1622	0.4788	0.0000	0.4788			0.0000			0.0000
Off-Road	4.1727	44.4867	32.8625	0.0346		2.2785	2.2785		2.1306	2.1306	0.0000	3,602.8635	3,602.8635	0.9594		3,623.0113
Total	**4.1727**	**44.4867**	**32.8625**	**0.0346**	**3.1622**	**2.2785**	**5.4407**	**0.4788**	**2.1306**	**2.6094**	**0.0000**	**3,602.8635**	**3,602.8635**	**0.9594**		**3,623.0113**

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	0.7403	11.6047	8.1313	0.0233	0.5505	0.2203	0.7708	0.1507	0.2026	0.3534		2,397.2777	2,397.2777	0.0207		2,397.7127
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	0.0792	0.1063	1.1072	1.9900e-003	0.1677	1.5800e-003	0.1693	0.0445	1.4400e-003	0.0459		179.1296	179.1296	0.0109		179.3578
Total	**0.8195**	**11.7109**	**9.2385**	**0.0253**	**0.7181**	**0.2219**	**0.9400**	**0.1952**	**0.2041**	**0.3993**		**2,576.4073**	**2,576.4073**	**0.0316**		**2,577.0705**

3.6 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					8.1067	0.0000	8.1067	3.5421	0.0000	3.5421			0.0000			0.0000
Off-Road	3.1299	34.0345	21.9086	0.0236		1.8164	1.8164		1.6711	1.6711		2,500.2965	2,500.2965	0.7389		2,515.8127
Total	**3.1299**	**34.0345**	**21.9086**	**0.0236**	**8.1067**	**1.8164**	**9.9232**	**3.5421**	**1.6711**	**5.2132**		**2,500.2965**	**2,500.2965**	**0.7389**		**2,515.8127**

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	0.1056	0.1417	1.4763	2.6600e-003	0.2236	2.1100e-003	0.2257	0.0593	1.9300e-003	0.0612		238.8395	238.8395	0.0145		239.1438
Total	**0.1056**	**0.1417**	**1.4763**	**2.6600e-003**	**0.2236**	**2.1100e-003**	**0.2257**	**0.0593**	**1.9300e-003**	**0.0612**		**238.8395**	**238.8395**	**0.0145**		**239.1438**

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					3.1616	0.0000	3.1616	1.3814	0.0000	1.3814			0.0000			0.0000
Off-Road	3.1299	34.0345	21.9086	0.0236		1.8164	1.8164		1.6711	1.6711	0.0000	2,500.2965	2,500.2965	0.7389		2,515.8127
Total	**3.1299**	**34.0345**	**21.9086**	**0.0236**	**3.1616**	**1.8164**	**4.9781**	**1.3814**	**1.6711**	**3.0525**	**0.0000**	**2,500.2965**	**2,500.2965**	**0.7389**		**2,515.8127**

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	0.1056	0.1417	1.4763	2.6600e-003	0.2236	2.1100e-003	0.2257	0.0593	1.9300e-003	0.0612		238.8395	238.8395	0.0145		239.1438
Total	**0.1056**	**0.1417**	**1.4763**	**2.6600e-003**	**0.2236**	**2.1100e-003**	**0.2257**	**0.0593**	**1.9300e-003**	**0.0612**		**238.8395**	**238.8395**	**0.0145**		**239.1438**

3.7 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	3.2817	36.0581	27.0255	0.0240		1.9068	1.9068		1.7543	1.7543		2,549.8842	2,549.8842	0.7535		2,565.7081
Total	**3.2817**	**36.0581**	**27.0255**	**0.0240**	**12.0442**	**1.9068**	**13.9510**	**6.6205**	**1.7543**	**8.3747**		**2,549.8842**	**2,549.8842**	**0.7535**		**2,565.7081**

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	0.1275	1.3287	2.3900e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7300e-003	0.0551		214.9555	214.9555	0.0130		215.2294
Total	**0.0950**	**0.1275**	**1.3287**	**2.3900e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7300e-003**	**0.0551**		**214.9555**	**214.9555**	**0.0130**		**215.2294**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	3.2817	36.0581	27.0255	0.0240		1.9068	1.9068		1.7543	1.7543	0.0000	2,549.8842	2,549.8842	0.7535		2,565.7081
Total	**3.2817**	**36.0581**	**27.0255**	**0.0240**	**4.6972**	**1.9068**	**6.6040**	**2.5820**	**1.7543**	**4.3363**	**0.0000**	**2,549.8842**	**2,549.8842**	**0.7535**		**2,565.7081**

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	0.1275	1.3287	2.3900e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7300e-003	0.0551		214.9555	214.9555	0.0130		215.2294
Total	**0.0950**	**0.1275**	**1.3287**	**2.3900e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7300e-003**	**0.0551**		**214.9555**	**214.9555**	**0.0130**		**215.2294**

3.8 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973		2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**		**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

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	1.4309	13.6967	16.6698	0.0258	0.7434	0.2681	1.0115	0.2117	0.2465	0.4582		2,630.8568	2,630.8568	0.0240		2,631.3598
Worker	3.1204	4.1864	43.6243	0.0785	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,057.7065	7,057.7065	0.4282		7,066.6982
Total	**4.5512**	**17.8831**	**60.2941**	**0.1043**	**7.3494**	**0.3304**	**7.6798**	**1.9636**	**0.3035**	**2.2670**		**9,688.5633**	**9,688.5633**	**0.4521**		**9,698.0580**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973	0.0000	2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**	**0.0000**	**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

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	1.4309	13.6967	16.6698	0.0258	0.7434	0.2681	1.0115	0.2117	0.2465	0.4582		2,630.8568	2,630.8568	0.0240		2,631.3598
Worker	3.1204	4.1864	43.6243	0.0785	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,057.7065	7,057.7065	0.4282		7,066.6982
Total	**4.5512**	**17.8831**	**60.2941**	**0.1043**	**7.3494**	**0.3304**	**7.6798**	**1.9636**	**0.3035**	**2.2670**		**9,688.5633**	**9,688.5633**	**0.4521**		**9,698.0580**

3.8 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**		**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

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	1.2315	11.9389	15.2772	0.0257	0.7435	0.2060	0.9495	0.2117	0.1894	0.4011		2,601.5409	2,601.5409	0.0211		2,601.9836
Worker	2.7983	3.7569	39.2193	0.0785	6.6060	0.0581	6.6641	1.7519	0.0533	1.8052		6,829.9560	6,829.9560	0.3920		6,838.1878
Total	**4.0298**	**15.6958**	**54.4965**	**0.1042**	**7.3495**	**0.2641**	**7.6136**	**1.9637**	**0.2427**	**2.2063**		**9,431.4969**	**9,431.4969**	**0.4131**		**9,440.1714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904	0.0000	2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**	**0.0000**	**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

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	1.2315	11.9389	15.2772	0.0257	0.7435	0.2060	0.9495	0.2117	0.1894	0.4011		2,601.5409	2,601.5409	0.0211		2,601.9836
Worker	2.7983	3.7569	39.2193	0.0785	6.6060	0.0581	6.6641	1.7519	0.0533	1.8052		6,829.9560	6,829.9560	0.3920		6,838.1878
Total	**4.0298**	**15.6958**	**54.4965**	**0.1042**	**7.3495**	**0.2641**	**7.6136**	**1.9637**	**0.2427**	**2.2063**		**9,431.4969**	**9,431.4969**	**0.4131**		**9,440.1714**

3.8 Building Construction - 2016

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0862	10.5371	14.2277	0.0257	0.7437	0.1710	0.9147	0.2118	0.1572	0.3690		2,572.7849	2,572.7849	0.0191		2,573.1854
Worker	2.5208	3.3882	35.3958	0.0785	6.6060	0.0552	6.6612	1.7519	0.0508	1.8027		6,593.8771	6,593.8771	0.3607		6,601.4513
Total	**3.6071**	**13.9253**	**49.6235**	**0.1042**	**7.3497**	**0.2262**	**7.5759**	**1.9637**	**0.2080**	**2.1717**		**9,166.6621**	**9,166.6621**	**0.3797**		**9,174.6367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0862	10.5371	14.2277	0.0257	0.7437	0.1710	0.9147	0.2118	0.1572	0.3690		2,572.7849	2,572.7849	0.0191		2,573.1854
Worker	2.5208	3.3882	35.3958	0.0785	6.6060	0.0552	6.6612	1.7519	0.0508	1.8027		6,593.8771	6,593.8771	0.3607		6,601.4513
Total	**3.6071**	**13.9253**	**49.6235**	**0.1042**	**7.3497**	**0.2262**	**7.5759**	**1.9637**	**0.2080**	**2.1717**		**9,166.6621**	**9,166.6621**	**0.3797**		**9,174.6367**

3.8 Building Construction - 2017

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9919	9.5822	13.5063	0.0257	0.7440	0.1524	0.8964	0.2119	0.1402	0.3521		2,531.0605	2,531.0605	0.0185		2,531.4482
Worker	2.2601	3.0582	31.9022	0.0784	6.6060	0.0531	6.6591	1.7519	0.0490	1.8009		6,340.6076	6,340.6076	0.3328		6,347.5965
Total	**3.2520**	**12.6403**	**45.4085**	**0.1041**	**7.3500**	**0.2055**	**7.5555**	**1.9638**	**0.1892**	**2.1530**		**8,871.6681**	**8,871.6681**	**0.3513**		**8,879.0447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9919	9.5822	13.5063	0.0257	0.7440	0.1524	0.8964	0.2119	0.1402	0.3521		2,531.0605	2,531.0605	0.0185		2,531.4482
Worker	2.2601	3.0582	31.9022	0.0784	6.6060	0.0531	6.6591	1.7519	0.0490	1.8009		6,340.6076	6,340.6076	0.3328		6,347.5965
Total	**3.2520**	**12.6403**	**45.4085**	**0.1041**	**7.3500**	**0.2055**	**7.5555**	**1.9638**	**0.1892**	**2.1530**		**8,871.6681**	**8,871.6681**	**0.3513**		**8,879.0447**

3.9 Paving - 2017

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.0574	0.0776	0.8097	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9291	160.9291	8.4500e-003		161.1065
Total	**0.0574**	**0.0776**	**0.8097**	**1.9900e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**160.9291**	**160.9291**	**8.4500e-003**		**161.1065**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.0574	0.0776	0.8097	1.9900e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		160.9291	160.9291	8.4500e-003		161.1065
Total	**0.0574**	**0.0776**	**0.8097**	**1.9900e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**160.9291**	**160.9291**	**8.4500e-003**		**161.1065**

3.10 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	123.4534					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**123.7857**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.4513	0.6106	6.3696	0.0157	1.3190	0.0106	1.3296	0.3498	9.7800e-003	0.3596		1,265.9758	1,265.9758	0.0665		1,267.3712
Total	**0.4513**	**0.6106**	**6.3696**	**0.0157**	**1.3190**	**0.0106**	**1.3296**	**0.3498**	**9.7800e-003**	**0.3596**		**1,265.9758**	**1,265.9758**	**0.0665**		**1,267.3712**

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	123.4534					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		282.0721
Total	**123.7857**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.4513	0.6106	6.3696	0.0157	1.3190	0.0106	1.3296	0.3498	9.7800e-003	0.3596		1,265.9758	1,265.9758	0.0665		1,267.3712
Total	**0.4513**	**0.6106**	**6.3696**	**0.0157**	**1.3190**	**0.0106**	**1.3296**	**0.3498**	**9.7800e-003**	**0.3596**		**1,265.9758**	**1,265.9758**	**0.0665**		**1,267.3712**

MGA

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2014
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - New schedule

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Trips and VMT - Based on 170,500 cu. ft. of debris

Demolition -

Grading - .

Vehicle Trips - Basd on new traffic study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	95.00
tblConstructionPhase	NumDays	370.00	24.00
tblConstructionPhase	NumDays	370.00	741.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	10.00

tblConstructionPhase	NumDays	35.00	11.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	PhaseEndDate	10/12/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	5/30/2014	5/31/2014
tblConstructionPhase	PhaseEndDate	5/17/2017	5/3/2017
tblConstructionPhase	PhaseEndDate	6/27/2014	6/29/2014
tblConstructionPhase	PhaseEndDate	7/14/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	7/16/2014	7/2/2014
tblConstructionPhase	PhaseStartDate	6/30/2014	6/16/2014
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	1.64	1.58
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.76	0.73
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	11.02
tblVehicleTrips	WD_TR	11.42	11.03
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

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

Year	lb/day										lb/day					
2014	11.5869	89.9424	108.6895	0.1630	19.5947	4.4636	24.0583	8.6374	4.1535	12.7909	0.0000	15,663.2140	15,663.2140	1.9070	0.0000	15,703.2600
2015	7.5155	45.0881	74.0528	0.1365	7.3495	2.3784	9.7279	1.9637	2.2308	4.1944	0.0000	12,593.5395	12,593.5395	1.0873	0.0000	12,616.3732
2016	6.8661	41.8708	68.7741	0.1364	7.3497	2.1918	9.5415	1.9637	2.0548	4.0186	0.0000	12,293.5295	12,293.5295	1.0412	0.0000	12,315.3951
2017	124.2286	38.5442	64.0227	0.1363	7.3500	1.9853	9.3352	1.9638	1.8608	3.8246	0.0000	11,952.9720	11,952.9720	1.0004	0.0000	11,973.9805
Total	**150.1971**	**215.4454**	**315.5390**	**0.5722**	**41.6439**	**11.0190**	**52.6629**	**14.5286**	**10.2999**	**24.8286**	**0.0000**	**52,503.2550**	**52,503.2550**	**5.0359**	**0.0000**	**52,609.0087**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.5869	89.9424	108.6895	0.1630	12.2478	4.4636	16.7113	4.5989	4.1535	8.7524	0.0000	15,663.2140	15,663.2140	1.9070	0.0000	15,703.2599
2015	7.5155	45.0881	74.0528	0.1365	7.3495	2.3784	9.7279	1.9637	2.2308	4.1944	0.0000	12,593.5395	12,593.5395	1.0873	0.0000	12,616.3732
2016	6.8661	41.8708	68.7741	0.1364	7.3497	2.1918	9.5415	1.9637	2.0548	4.0186	0.0000	12,293.5295	12,293.5295	1.0412	0.0000	12,315.3951
2017	124.2286	38.5442	64.0227	0.1363	7.3500	1.9853	9.3352	1.9638	1.8608	3.8246	0.0000	11,952.9720	11,952.9720	1.0004	0.0000	11,973.9805
Total	**150.1971**	**215.4454**	**315.5390**	**0.5722**	**34.2969**	**11.0190**	**45.3159**	**10.4902**	**10.2999**	**20.7901**	**0.0000**	**52,503.2550**	**52,503.2550**	**5.0359**	**0.0000**	**52,609.0086**

	ROG	**NOx**	**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**	**17.64**	**0.00**	**13.95**	**27.80**	**0.00**	**16.27**	**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	Bridge- Demolition	Demolition	4/1/2014	4/14/2014	5	10	
2	Bridge- Grading	Grading	4/15/2014	4/28/2014	5	10	
3	Bridge- Installation	Building Construction	4/29/2014	5/31/2014	5	24	
4	Demolition	Demolition	6/1/2014	6/29/2014	5	20	
5	Grading	Grading	6/16/2014	6/30/2014	5	11	
6	Site Preparation	Site Preparation	7/1/2014	7/15/2014	5	11	
7	Building Construction	Building Construction	7/2/2014	5/3/2017	5	741	
8	Paving	Paving	5/4/2017	6/1/2017	5	21	
9	Architectural Coating	Architectural Coating	6/2/2017	6/30/2017	5	95	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 1,417,500; Residential Outdoor: 472,500; Non-Residential Indoor: 404,723; Non-Residential Outdoor: 134,908

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Bridge- Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

Bridge- Demolition	Excavators	1	8.00	162	0.38
Bridge- Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Bridge- Grading	Excavators	1	8.00	162	0.38
Bridge- Grading	Graders	1	8.00	174	0.41
Bridge- Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Bridge- Installation	Cranes	2	7.00	226	0.29
Bridge- Installation	Generator Sets	1	8.00	84	0.74
Bridge- Installation	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Bridge- Demolition	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Installation	4	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	15.00	0.00	632.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	118.00	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 Bridge- Demolition - 2014

Unmitigated Construction On-Site

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

Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.4769	24.9340	18.3475	0.0204		1.3541	1.3541		1.2801	1.2801		2,097.7641	2,097.7641	0.5147		2,108.5716
Total	**2.4769**	**24.9340**	**18.3475**	**0.0204**	**0.0000**	**1.3541**	**1.3541**	**0.0000**	**1.2801**	**1.2801**		**2,097.7641**	**2,097.7641**	**0.5147**		**2,108.5716**

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	0.0412	0.0516	0.6368	1.1300e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		101.8236	101.8236	5.8000e-003		101.9453
Total	**0.0412**	**0.0516**	**0.6368**	**1.1300e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**101.8236**	**101.8236**	**5.8000e-003**		**101.9453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.4769	24.9340	18.3475	0.0204		1.3541	1.3541		1.2801	1.2801	0.0000	2,097.7641	2,097.7641	0.5147		2,108.5716
Total	**2.4769**	**24.9340**	**18.3475**	**0.0204**	**0.0000**	**1.3541**	**1.3541**	**0.0000**	**1.2801**	**1.2801**	**0.0000**	**2,097.7641**	**2,097.7641**	**0.5147**		**2,108.5716**

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	0.0412	0.0516	0.6368	1.1300e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		101.8236	101.8236	5.8000e-003		101.9453
Total	**0.0412**	**0.0516**	**0.6368**	**1.1300e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**101.8236**	**101.8236**	**5.8000e-003**		**101.9453**

3.3 Bridge- Grading - 2014

Unmitigated Construction On-Site

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

Fugitive Dust					0.0106	0.0000	0.0106	1.1500e-003	0.0000	1.1500e-003			0.0000			0.0000
Off-Road	1.8576	19.5380	10.8185	0.0147		1.1405	1.1405		1.0493	1.0493		1,556.4195	1,556.4195	0.4599		1,566.0782
Total	**1.8576**	**19.5380**	**10.8185**	**0.0147**	**0.0106**	**1.1405**	**1.1511**	**1.1500e-003**	**1.0493**	**1.0504**		**1,556.4195**	**1,556.4195**	**0.4599**		**1,566.0782**

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	0.0412	0.0516	0.6368	1.1300e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		101.8236	101.8236	5.8000e-003		101.9453
Total	**0.0412**	**0.0516**	**0.6368**	**1.1300e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**101.8236**	**101.8236**	**5.8000e-003**		**101.9453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1400e-003	0.0000	4.1400e-003	4.5000e-004	0.0000	4.5000e-004			0.0000			0.0000
Off-Road	1.8576	19.5380	10.8185	0.0147		1.1405	1.1405		1.0493	1.0493	0.0000	1,556.4195	1,556.4195	0.4599		1,566.0782
Total	**1.8576**	**19.5380**	**10.8185**	**0.0147**	**4.1400e-003**	**1.1405**	**1.1447**	**4.5000e-004**	**1.0493**	**1.0497**	**0.0000**	**1,556.4195**	**1,556.4195**	**0.4599**		**1,566.0782**

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	0.0412	0.0516	0.6368	1.1300e-003	0.0894	8.4000e-004	0.0903	0.0237	7.7000e-004	0.0245		101.8236	101.8236	5.8000e-003		101.9453
Total	**0.0412**	**0.0516**	**0.6368**	**1.1300e-003**	**0.0894**	**8.4000e-004**	**0.0903**	**0.0237**	**7.7000e-004**	**0.0245**		**101.8236**	**101.8236**	**5.8000e-003**		**101.9453**

3.4 Bridge- Installation - 2014

Unmitigated Construction On-Site

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

Off-Road	2.8207	23.4809	11.4859	0.0190		1.3235	1.3235		1.2652	1.2652		1,877.7205	1,877.7205	0.4432		1,887.0267
Total	**2.8207**	**23.4809**	**11.4859**	**0.0190**		**1.3235**	**1.3235**		**1.2652**	**1.2652**		**1,877.7205**	**1,877.7205**	**0.4432**		**1,887.0267**

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	1.2999	13.3387	14.2582	0.0260	0.7434	0.2646	1.0080	0.2117	0.2433	0.4549		2,652.8145	2,652.8145	0.0234		2,653.3049
Worker	3.0447	3.8122	47.0432	0.0837	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,522.2154	7,522.2154	0.4282		7,531.2071
Total	**4.3446**	**17.1508**	**61.3014**	**0.1097**	**7.3494**	**0.3269**	**7.6762**	**1.9636**	**0.3002**	**2.2638**		**10,175.0298**	**10,175.0298**	**0.4515**		**10,184.5119**

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	2.8207	23.4809	11.4859	0.0190		1.3235	1.3235		1.2652	1.2652	0.0000	1,877.7205	1,877.7205	0.4432		1,887.0267
Total	**2.8207**	**23.4809**	**11.4859**	**0.0190**		**1.3235**	**1.3235**		**1.2652**	**1.2652**	**0.0000**	**1,877.7205**	**1,877.7205**	**0.4432**		**1,887.0267**

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	1.2999	13.3387	14.2582	0.0260	0.7434	0.2646	1.0080	0.2117	0.2433	0.4549		2,652.8145	2,652.8145	0.0234		2,653.3049
Worker	3.0447	3.8122	47.0432	0.0837	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,522.2154	7,522.2154	0.4282		7,531.2071
Total	**4.3446**	**17.1508**	**61.3014**	**0.1097**	**7.3494**	**0.3269**	**7.6762**	**1.9636**	**0.3002**	**2.2638**		**10,175.0298**	**10,175.0298**	**0.4515**		**10,184.5119**

3.5 Demolition - 2014

Unmitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					8.1081	0.0000	8.1081	1.2276	0.0000	1.2276			0.0000			0.0000
Off-Road	4.1727	44.4867	32.8625	0.0346		2.2785	2.2785		2.1306	2.1306		3,602.8635	3,602.8635	0.9594		3,623.0113
Total	**4.1727**	**44.4867**	**32.8625**	**0.0346**	**8.1081**	**2.2785**	**10.3866**	**1.2276**	**2.1306**	**3.3582**		**3,602.8635**	**3,602.8635**	**0.9594**		**3,623.0113**

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	0.6965	11.1955	7.2542	0.0234	0.5505	0.2196	0.7700	0.1507	0.2020	0.3527		2,402.9609	2,402.9609	0.0205		2,403.3911
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	0.0773	0.0968	1.1940	2.1200e-003	0.1677	1.5800e-003	0.1693	0.0445	1.4400e-003	0.0459		190.9192	190.9192	0.0109		191.1474
Total	**0.7738**	**11.2923**	**8.4482**	**0.0255**	**0.7181**	**0.2212**	**0.9393**	**0.1952**	**0.2034**	**0.3986**		**2,593.8801**	**2,593.8801**	**0.0314**		**2,594.5384**

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					3.1622	0.0000	3.1622	0.4788	0.0000	0.4788			0.0000			0.0000
Off-Road	4.1727	44.4867	32.8625	0.0346		2.2785	2.2785		2.1306	2.1306	0.0000	3,602.8635	3,602.8635	0.9594		3,623.0113
Total	**4.1727**	**44.4867**	**32.8625**	**0.0346**	**3.1622**	**2.2785**	**5.4407**	**0.4788**	**2.1306**	**2.6094**	**0.0000**	**3,602.8635**	**3,602.8635**	**0.9594**		**3,623.0113**

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	0.6965	11.1955	7.2542	0.0234	0.5505	0.2196	0.7700	0.1507	0.2020	0.3527		2,402.9609	2,402.9609	0.0205		2,403.3911
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	0.0773	0.0968	1.1940	2.1200e-003	0.1677	1.5800e-003	0.1693	0.0445	1.4400e-003	0.0459		190.9192	190.9192	0.0109		191.1474
Total	**0.7738**	**11.2923**	**8.4482**	**0.0255**	**0.7181**	**0.2212**	**0.9393**	**0.1952**	**0.2034**	**0.3986**		**2,593.8801**	**2,593.8801**	**0.0314**		**2,594.5384**

3.6 Grading - 2014

Unmitigated Construction On-Site

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

Fugitive Dust					8.1067	0.0000	8.1067	3.5421	0.0000	3.5421			0.0000			0.0000
Off-Road	3.1299	34.0345	21.9086	0.0236		1.8164	1.8164		1.6711	1.6711		2,500.2965	2,500.2965	0.7389		2,515.8127
Total	**3.1299**	**34.0345**	**21.9086**	**0.0236**	**8.1067**	**1.8164**	**9.9232**	**3.5421**	**1.6711**	**5.2132**		**2,500.2965**	**2,500.2965**	**0.7389**		**2,515.8127**

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	0.1030	0.1290	1.5920	2.8300e-003	0.2236	2.1100e-003	0.2257	0.0593	1.9300e-003	0.0612		254.5589	254.5589	0.0145		254.8632
Total	**0.1030**	**0.1290**	**1.5920**	**2.8300e-003**	**0.2236**	**2.1100e-003**	**0.2257**	**0.0593**	**1.9300e-003**	**0.0612**		**254.5589**	**254.5589**	**0.0145**		**254.8632**

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					3.1616	0.0000	3.1616	1.3814	0.0000	1.3814			0.0000			0.0000
Off-Road	3.1299	34.0345	21.9086	0.0236		1.8164	1.8164		1.6711	1.6711	0.0000	2,500.2965	2,500.2965	0.7389		2,515.8127
Total	**3.1299**	**34.0345**	**21.9086**	**0.0236**	**3.1616**	**1.8164**	**4.9781**	**1.3814**	**1.6711**	**3.0525**	**0.0000**	**2,500.2965**	**2,500.2965**	**0.7389**		**2,515.8127**

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	0.1030	0.1290	1.5920	2.8300e-003	0.2236	2.1100e-003	0.2257	0.0593	1.9300e-003	0.0612		254.5589	254.5589	0.0145		254.8632
Total	**0.1030**	**0.1290**	**1.5920**	**2.8300e-003**	**0.2236**	**2.1100e-003**	**0.2257**	**0.0593**	**1.9300e-003**	**0.0612**		**254.5589**	**254.5589**	**0.0145**		**254.8632**

3.7 Site Preparation - 2014

Unmitigated Construction On-Site

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

Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	3.2817	36.0581	27.0255	0.0240		1.9068	1.9068		1.7543	1.7543		2,549.884 2	2,549.8842	0.7535		2,565.708 1
Total	**3.2817**	**36.0581**	**27.0255**	**0.0240**	**12.0442**	**1.9068**	**13.9510**	**6.6205**	**1.7543**	**8.3747**		**2,549.884 2**	**2,549.8842**	**0.7535**		**2,565.708 1**

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	0.0927	0.1161	1.4328	2.5500e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7300e-003	0.0551		229.1030	229.1030	0.0130		229.3769
Total	**0.0927**	**0.1161**	**1.4328**	**2.5500e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7300e-003**	**0.0551**		**229.1030**	**229.1030**	**0.0130**		**229.3769**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	3.2817	36.0581	27.0255	0.0240		1.9068	1.9068		1.7543	1.7543	0.0000	2,549.884 2	2,549.8842	0.7535		2,565.708 1
Total	**3.2817**	**36.0581**	**27.0255**	**0.0240**	**4.6972**	**1.9068**	**6.6040**	**2.5820**	**1.7543**	**4.3363**	**0.0000**	**2,549.884 2**	**2,549.8842**	**0.7535**		**2,565.708 1**

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	0.0927	0.1161	1.4328	2.5500e-003	0.2012	1.9000e-003	0.2031	0.0534	1.7300e-003	0.0551		229.1030	229.1030	0.0130		229.3769
Total	**0.0927**	**0.1161**	**1.4328**	**2.5500e-003**	**0.2012**	**1.9000e-003**	**0.2031**	**0.0534**	**1.7300e-003**	**0.0551**		**229.1030**	**229.1030**	**0.0130**		**229.3769**

3.8 Building Construction - 2014

Unmitigated Construction On-Site

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

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

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	1.2999	13.3387	14.2582	0.0260	0.7434	0.2646	1.0080	0.2117	0.2433	0.4549		2,652.8145	2,652.8145	0.0234		2,653.3049
Worker	3.0447	3.8122	47.0432	0.0837	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,522.2154	7,522.2154	0.4282		7,531.2071
Total	**4.3446**	**17.1508**	**61.3014**	**0.1097**	**7.3494**	**0.3269**	**7.6762**	**1.9636**	**0.3002**	**2.2638**		**10,175.0298**	**10,175.0298**	**0.4515**		**10,184.5119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8680	31.2537	18.9298	0.0268		2.2280	2.2280		2.0973	2.0973	0.0000	2,709.1969	2,709.1969	0.6889		2,723.6630
Total	**3.8680**	**31.2537**	**18.9298**	**0.0268**		**2.2280**	**2.2280**		**2.0973**	**2.0973**	**0.0000**	**2,709.1969**	**2,709.1969**	**0.6889**		**2,723.6630**

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	1.2999	13.3387	14.2582	0.0260	0.7434	0.2646	1.0080	0.2117	0.2433	0.4549		2,652.8145	2,652.8145	0.0234		2,653.3049
Worker	3.0447	3.8122	47.0432	0.0837	6.6060	0.0623	6.6683	1.7519	0.0569	1.8089		7,522.2154	7,522.2154	0.4282		7,531.2071
Total	**4.3446**	**17.1508**	**61.3014**	**0.1097**	**7.3494**	**0.3269**	**7.6762**	**1.9636**	**0.3002**	**2.2638**		**10,175.0298**	**10,175.0298**	**0.4515**		**10,184.5119**

3.8 Building Construction - 2015

Unmitigated Construction On-Site

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

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

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	1.1209	11.6364	12.8781	0.0259	0.7435	0.2035	0.9470	0.2117	0.1871	0.3988		2,623.4409	2,623.4409	0.0205		2,623.8715
Worker	2.7355	3.4219	42.4301	0.0837	6.6060	0.0581	6.6641	1.7519	0.0533	1.8052		7,280.5215	7,280.5215	0.3920		7,288.7533
Total	**3.8564**	**15.0582**	**55.3082**	**0.1096**	**7.3495**	**0.2616**	**7.6111**	**1.9637**	**0.2404**	**2.2041**		**9,903.9624**	**9,903.9624**	**0.4125**		**9,912.6248**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904	0.0000	2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**	**0.0000**	**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

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	1.1209	11.6364	12.8781	0.0259	0.7435	0.2035	0.9470	0.2117	0.1871	0.3988		2,623.4409	2,623.4409	0.0205		2,623.8715
Worker	2.7355	3.4219	42.4301	0.0837	6.6060	0.0581	6.6641	1.7519	0.0533	1.8052		7,280.5215	7,280.5215	0.3920		7,288.7533
Total	**3.8564**	**15.0582**	**55.3082**	**0.1096**	**7.3495**	**0.2616**	**7.6111**	**1.9637**	**0.2404**	**2.2041**		**9,903.9624**	**9,903.9624**	**0.4125**		**9,912.6248**

3.8 Building Construction - 2016

Unmitigated Construction On-Site

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

Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9908	10.2777	11.8513	0.0259	0.7437	0.1692	0.9130	0.2118	0.1556	0.3674		2,594.5441	2,594.5441	0.0185		2,594.9330
Worker	2.4690	3.0867	38.4161	0.0837	6.6060	0.0552	6.6612	1.7519	0.0508	1.8027		7,029.6989	7,029.6989	0.3607		7,037.2731
Total	**3.4599**	**13.3644**	**50.2674**	**0.1096**	**7.3497**	**0.2244**	**7.5742**	**1.9637**	**0.2064**	**2.1701**		**9,624.2431**	**9,624.2431**	**0.3792**		**9,632.2061**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9908	10.2777	11.8513	0.0259	0.7437	0.1692	0.9130	0.2118	0.1556	0.3674		2,594.5441	2,594.5441	0.0185		2,594.9330
Worker	2.4690	3.0867	38.4161	0.0837	6.6060	0.0552	6.6612	1.7519	0.0508	1.8027		7,029.6989	7,029.6989	0.3607		7,037.2731
Total	**3.4599**	**13.3644**	**50.2674**	**0.1096**	**7.3497**	**0.2244**	**7.5742**	**1.9637**	**0.2064**	**2.1701**		**9,624.2431**	**9,624.2431**	**0.3792**		**9,632.2061**

3.8 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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.805 3	2,639.8053	0.6497		2,653.449 0
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.805 3**	**2,639.8053**	**0.6497**		**2,653.449 0**

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	0.9079	9.3518	11.1452	0.0259	0.7440	0.1509	0.8949	0.2119	0.1388	0.3507		2,552.519 7	2,552.5197	0.0179		2,552.895 5
Worker	2.2186	2.7867	34.7483	0.0837	6.6060	0.0531	6.6591	1.7519	0.0490	1.8009		6,760.647 0	6,760.6470	0.3328		6,767.635 9
Total	**3.1265**	**12.1385**	**45.8935**	**0.1095**	**7.3500**	**0.2040**	**7.5540**	**1.9638**	**0.1878**	**2.1516**		**9,313.166 7**	**9,313.1667**	**0.3507**		**9,320.531 4**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730	0.0000	2,639.805 3	2,639.8053	0.6497		2,653.449 0
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**	**0.0000**	**2,639.805 3**	**2,639.8053**	**0.6497**		**2,653.449 0**

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	0.9079	9.3518	11.1452	0.0259	0.7440	0.1509	0.8949	0.2119	0.1388	0.3507		2,552.519 7	2,552.5197	0.0179		2,552.895 5
Worker	2.2186	2.7867	34.7483	0.0837	6.6060	0.0531	6.6591	1.7519	0.0490	1.8009		6,760.647 0	6,760.6470	0.3328		6,767.635 9
Total	**3.1265**	**12.1385**	**45.8935**	**0.1095**	**7.3500**	**0.2040**	**7.5540**	**1.9638**	**0.1878**	**2.1516**		**9,313.166 7**	**9,313.1667**	**0.3507**		**9,320.531 4**

3.9 Paving - 2017

Unmitigated Construction On-Site

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

Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9074**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.0563	0.0707	0.8819	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.5900	171.5900	8.4500e-003		171.7674
Total	**0.0563**	**0.0707**	**0.8819**	**2.1200e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**171.5900**	**171.5900**	**8.4500e-003**		**171.7674**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.0563	0.0707	0.8819	2.1200e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2400e-003	0.0457		171.5900	171.5900	8.4500e-003		171.7674
Total	**0.0563**	**0.0707**	**0.8819**	**2.1200e-003**	**0.1677**	**1.3500e-003**	**0.1690**	**0.0445**	**1.2400e-003**	**0.0457**		**171.5900**	**171.5900**	**8.4500e-003**		**171.7674**

3.10 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	123.4534					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**123.7857**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.4430	0.5564	6.9379	0.0167	1.3190	0.0106	1.3296	0.3498	9.7800e-003	0.3596		1,349.8415	1,349.8415	0.0665		1,351.2370
Total	**0.4430**	**0.5564**	**6.9379**	**0.0167**	**1.3190**	**0.0106**	**1.3296**	**0.3498**	**9.7800e-003**	**0.3596**		**1,349.8415**	**1,349.8415**	**0.0665**		**1,351.2370**

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	123.4534					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		282.0721
Total	**123.7857**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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	0.4430	0.5564	6.9379	0.0167	1.3190	0.0106	1.3296	0.3498	9.7800e-003	0.3596		1,349.8415	1,349.8415	0.0665		1,351.2370
Total	**0.4430**	**0.5564**	**6.9379**	**0.0167**	**1.3190**	**0.0106**	**1.3296**	**0.3498**	**9.7800e-003**	**0.3596**		**1,349.8415**	**1,349.8415**	**0.0665**		**1,351.2370**

MGA

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2014

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 630.89 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - .

Construction Phase - New schedule

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment - .

Trips and VMT - Based on 170,500 cu. ft. of debris

Demolition -

Grading - .

Vehicle Trips - Basd on new traffic study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	95.00
tblConstructionPhase	NumDays	370.00	24.00
tblConstructionPhase	NumDays	370.00	741.00

tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	10.00
tblConstructionPhase	NumDays	35.00	11.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	PhaseEndDate	10/12/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	5/30/2014	5/31/2014
tblConstructionPhase	PhaseEndDate	5/17/2017	5/3/2017
tblConstructionPhase	PhaseEndDate	6/27/2014	6/29/2014
tblConstructionPhase	PhaseEndDate	7/14/2014	6/30/2014
tblConstructionPhase	PhaseStartDate	7/16/2014	7/2/2014
tblConstructionPhase	PhaseStartDate	6/30/2014	6/16/2014
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	1.64	1.58
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.76	0.73
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	11.02
tblVehicleTrips	WD_TR	11.42	11.03
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.7313	4.9192	6.9569	0.0113	0.7614	0.2452	1.0067	0.2206	0.2298	0.4504	0.0000	972.2439	972.2439	0.0986	0.0000	974.3138
2015	0.9780	6.0123	9.6308	0.0173	0.9417	0.3105	1.2522	0.2520	0.2912	0.5432	0.0000	1,449.0340	1,449.0340	0.1288	0.0000	1,451.7378
2016	0.8923	5.5776	8.9549	0.0173	0.9417	0.2861	1.2279	0.2520	0.2682	0.5202	0.0000	1,414.8437	1,414.8437	0.1233	0.0000	1,417.4329
2017	1.5974	1.9739	3.0656	6.2700e-003	0.3329	0.1013	0.4341	0.0890	0.0948	0.1839	0.0000	502.1361	502.1361	0.0476	0.0000	503.1356
Total	**4.1990**	**18.4829**	**28.6082**	**0.0521**	**2.9777**	**0.9432**	**3.9208**	**0.8136**	**0.8841**	**1.6977**	**0.0000**	**4,338.2577**	**4,338.2577**	**0.3982**	**0.0000**	**4,346.6201**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.7313	4.9192	6.9569	0.0113	0.6443	0.2452	0.8896	0.1790	0.2298	0.4088	0.0000	972.2436	972.2436	0.0986	0.0000	974.3135
2015	0.9780	6.0123	9.6308	0.0173	0.9417	0.3105	1.2522	0.2520	0.2912	0.5432	0.0000	1,449.0336	1,449.0336	0.1288	0.0000	1,451.7374
2016	0.8923	5.5775	8.9549	0.0173	0.9417	0.2861	1.2279	0.2520	0.2682	0.5202	0.0000	1,414.8433	1,414.8433	0.1233	0.0000	1,417.4325
2017	1.5974	1.9738	3.0656	6.2700e-003	0.3329	0.1013	0.4341	0.0890	0.0948	0.1839	0.0000	502.1360	502.1360	0.0476	0.0000	503.1355
Total	**4.1990**	**18.4829**	**28.6082**	**0.0521**	**2.8606**	**0.9432**	**3.8037**	**0.7720**	**0.8841**	**1.6561**	**0.0000**	**4,338.2564**	**4,338.2564**	**0.3982**	**0.0000**	**4,346.6188**

	ROG	**NOx**	**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**	**3.93**	**0.00**	**2.99**	**5.11**	**0.00**	**2.45**	**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	Bridge- Demolition	Demolition	4/1/2014	4/14/2014	5	10	
2	Bridge- Grading	Grading	4/15/2014	4/28/2014	5	10	
3	Bridge- Installation	Building Construction	4/29/2014	5/31/2014	5	24	
4	Demolition	Demolition	6/1/2014	6/29/2014	5	20	
5	Grading	Grading	6/16/2014	6/30/2014	5	11	
6	Site Preparation	Site Preparation	7/1/2014	7/15/2014	5	11	
7	Building Construction	Building Construction	7/2/2014	5/3/2017	5	741	
8	Paving	Paving	5/4/2017	6/1/2017	5	21	
9	Architectural Coating	Architectural Coating	6/2/2017	6/30/2017	5	95	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 1,417,500; Residential Outdoor: 472,500; Non-Residential Indoor: 404,723; Non-Residential Outdoor: 134,908

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Bridge- Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Bridge- Demolition	Excavators	1	8.00	162	0.38
Bridge- Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Bridge- Grading	Excavators	1	8.00	162	0.38
Bridge- Grading	Graders	1	8.00	174	0.41
Bridge- Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Bridge- Installation	Cranes	2	7.00	226	0.29
Bridge- Installation	Generator Sets	1	8.00	84	0.74
Bridge- Installation	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	2	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
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
Bridge- Demolition	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Bridge- Installation	4	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	15.00	0.00	632.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	591.00	119.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	118.00	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 Bridge- Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1247	0.0917	1.0000e-004		6.7700e-003	6.7700e-003		6.4000e-003	6.4000e-003	0.0000	9.5153	9.5153	2.3300e-003	0.0000	9.5643
Total	**0.0124**	**0.1247**	**0.0917**	**1.0000e-004**	**0.0000**	**6.7700e-003**	**6.7700e-003**	**0.0000**	**6.4000e-003**	**6.4000e-003**	**0.0000**	**9.5153**	**9.5153**	**2.3300e-003**	**0.0000**	**9.5643**

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	2.0000e-004	2.9000e-004	3.0200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4401	0.4401	3.0000e-005	0.0000	0.4406
Total	**2.0000e-004**	**2.9000e-004**	**3.0200e-003**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4401**	**0.4401**	**3.0000e-005**	**0.0000**	**0.4406**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1247	0.0917	1.0000e-004		6.7700e-003	6.7700e-003		6.4000e-003	6.4000e-003	0.0000	9.5153	9.5153	2.3300e-003	0.0000	9.5643
Total	**0.0124**	**0.1247**	**0.0917**	**1.0000e-004**	**0.0000**	**6.7700e-003**	**6.7700e-003**	**0.0000**	**6.4000e-003**	**6.4000e-003**	**0.0000**	**9.5153**	**9.5153**	**2.3300e-003**	**0.0000**	**9.5643**

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	2.0000e-004	2.9000e-004	3.0200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4401	0.4401	3.0000e-005	0.0000	0.4406
Total	**2.0000e-004**	**2.9000e-004**	**3.0200e-003**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4401**	**0.4401**	**3.0000e-005**	**0.0000**	**0.4406**

3.3 Bridge- Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2900e-003	0.0977	0.0541	7.0000e-005		5.7000e-003	5.7000e-003		5.2500e-003	5.2500e-003	0.0000	7.0598	7.0598	2.0900e-003	0.0000	7.1036
Total	**9.2900e-003**	**0.0977**	**0.0541**	**7.0000e-005**	**5.0000e-005**	**5.7000e-003**	**5.7500e-003**	**1.0000e-005**	**5.2500e-003**	**5.2600e-003**	**0.0000**	**7.0598**	**7.0598**	**2.0900e-003**	**0.0000**	**7.1036**

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	2.0000e-004	2.9000e-004	3.0200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4401	0.4401	3.0000e-005	0.0000	0.4406
Total	**2.0000e-004**	**2.9000e-004**	**3.0200e-003**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4401**	**0.4401**	**3.0000e-005**	**0.0000**	**0.4406**

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					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2900e-003	0.0977	0.0541	7.0000e-005		5.7000e-003	5.7000e-003		5.2500e-003	5.2500e-003	0.0000	7.0598	7.0598	2.0900e-003	0.0000	7.1036
Total	**9.2900e-003**	**0.0977**	**0.0541**	**7.0000e-005**	**2.0000e-005**	**5.7000e-003**	**5.7200e-003**	**0.0000**	**5.2500e-003**	**5.2500e-003**	**0.0000**	**7.0598**	**7.0598**	**2.0900e-003**	**0.0000**	**7.1036**

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	2.0000e-004	2.9000e-004	3.0200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4401	0.4401	3.0000e-005	0.0000	0.4406
Total	**2.0000e-004**	**2.9000e-004**	**3.0200e-003**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4401**	**0.4401**	**3.0000e-005**	**0.0000**	**0.4406**

3.4 Bridge- Installation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0339	0.2818	0.1378	2.3000e-004		0.0159	0.0159		0.0152	0.0152	0.0000	20.4413	20.4413	4.8200e-003	0.0000	20.5426
Total	**0.0339**	**0.2818**	**0.1378**	**2.3000e-004**		**0.0159**	**0.0159**		**0.0152**	**0.0152**	**0.0000**	**20.4413**	**20.4413**	**4.8200e-003**	**0.0000**	**20.5426**

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	0.0167	0.1676	0.1955	3.1000e-004	8.7800e-003	3.1900e-003	0.0120	2.5100e-003	2.9400e-003	5.4400e-003	0.0000	28.7787	28.7787	2.6000e-004	0.0000	28.7841
Worker	0.0354	0.0517	0.5357	9.6000e-004	0.0778	7.5000e-004	0.0786	0.0207	6.8000e-004	0.0214	0.0000	78.0221	78.0221	4.6600e-003	0.0000	78.1200
Total	**0.0520**	**0.2193**	**0.7312**	**1.2700e-003**	**0.0866**	**3.9400e-003**	**0.0905**	**0.0232**	**3.6200e-003**	**0.0268**	**0.0000**	**106.8009**	**106.8009**	**4.9200e-003**	**0.0000**	**106.9041**

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	0.0339	0.2818	0.1378	2.3000e-004		0.0159	0.0159		0.0152	0.0152	0.0000	20.4413	20.4413	4.8200e-003	0.0000	20.5426
Total	**0.0339**	**0.2818**	**0.1378**	**2.3000e-004**		**0.0159**	**0.0159**		**0.0152**	**0.0152**	**0.0000**	**20.4413**	**20.4413**	**4.8200e-003**	**0.0000**	**20.5426**

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	0.0167	0.1676	0.1955	3.1000e-004	8.7800e-003	3.1900e-003	0.0120	2.5100e-003	2.9400e-003	5.4400e-003	0.0000	28.7787	28.7787	2.6000e-004	0.0000	28.7841
Worker	0.0354	0.0517	0.5357	9.6000e-004	0.0778	7.5000e-004	0.0786	0.0207	6.8000e-004	0.0214	0.0000	78.0221	78.0221	4.6600e-003	0.0000	78.1200
Total	**0.0520**	**0.2193**	**0.7312**	**1.2700e-003**	**0.0866**	**3.9400e-003**	**0.0905**	**0.0232**	**3.6200e-003**	**0.0268**	**0.0000**	**106.8009**	**106.8009**	**4.9200e-003**	**0.0000**	**106.9041**

3.5 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0811	0.0000	0.0811	0.0123	0.0000	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0417	0.4449	0.3286	3.5000e-004		0.0228	0.0228		0.0213	0.0213	0.0000	32.6846	32.6846	8.7000e-003	0.0000	32.8674
Total	**0.0417**	**0.4449**	**0.3286**	**3.5000e-004**	**0.0811**	**0.0228**	**0.1039**	**0.0123**	**0.0213**	**0.0336**	**0.0000**	**32.6846**	**32.6846**	**8.7000e-003**	**0.0000**	**32.8674**

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	7.2700e-003	0.1180	0.0802	2.3000e-004	5.4200e-003	2.2000e-003	7.6100e-003	1.4900e-003	2.0200e-003	3.5100e-003	0.0000	21.7776	21.7776	1.9000e-004	0.0000	21.7816
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	7.5000e-004	1.0900e-003	0.0113	2.0000e-005	1.6500e-003	2.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6502	1.6502	1.0000e-004	0.0000	1.6523
Total	**8.0200e-003**	**0.1191**	**0.0915**	**2.5000e-004**	**7.0700e-003**	**2.2200e-003**	**9.2700e-003**	**1.9300e-003**	**2.0300e-003**	**3.9600e-003**	**0.0000**	**23.4279**	**23.4279**	**2.9000e-004**	**0.0000**	**23.4338**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0316	0.0000	0.0316	4.7900e-003	0.0000	4.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0417	0.4449	0.3286	3.5000e-004		0.0228	0.0228		0.0213	0.0213	0.0000	32.6846	32.6846	8.7000e-003	0.0000	32.8674
Total	**0.0417**	**0.4449**	**0.3286**	**3.5000e-004**	**0.0316**	**0.0228**	**0.0544**	**4.7900e-003**	**0.0213**	**0.0261**	**0.0000**	**32.6846**	**32.6846**	**8.7000e-003**	**0.0000**	**32.8674**

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	7.2700e-003	0.1180	0.0802	2.3000e-004	5.4200e-003	2.2000e-003	7.6100e-003	1.4900e-003	2.0200e-003	3.5100e-003	0.0000	21.7776	21.7776	1.9000e-004	0.0000	21.7816
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	7.5000e-004	1.0900e-003	0.0113	2.0000e-005	1.6500e-003	2.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6502	1.6502	1.0000e-004	0.0000	1.6523
Total	**8.0200e-003**	**0.1191**	**0.0915**	**2.5000e-004**	**7.0700e-003**	**2.2200e-003**	**9.2700e-003**	**1.9300e-003**	**2.0300e-003**	**3.9600e-003**	**0.0000**	**23.4279**	**23.4279**	**2.9000e-004**	**0.0000**	**23.4338**

3.6 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0446	0.0000	0.0446	0.0195	0.0000	0.0195	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1872	0.1205	1.3000e-004		9.9900e-003	9.9900e-003		9.1900e-003	9.1900e-003	0.0000	12.4753	12.4753	3.6900e-003	0.0000	12.5527
Total	**0.0172**	**0.1872**	**0.1205**	**1.3000e-004**	**0.0446**	**9.9900e-003**	**0.0546**	**0.0195**	**9.1900e-003**	**0.0287**	**0.0000**	**12.4753**	**12.4753**	**3.6900e-003**	**0.0000**	**12.5527**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	8.0000e-004	8.3100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.2102	1.2102	7.0000e-005	0.0000	1.2117
Total	**5.5000e-004**	**8.0000e-004**	**8.3100e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2117**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Fugitive Dust					0.0174	0.0000	0.0174	7.6000e-003	0.0000	7.6000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1872	0.1205	1.3000e-004		9.9900e-003	9.9900e-003		9.1900e-003	9.1900e-003	0.0000	12.4753	12.4753	3.6900e-003	0.0000	12.5527
Total	**0.0172**	**0.1872**	**0.1205**	**1.3000e-004**	**0.0174**	**9.9900e-003**	**0.0274**	**7.6000e-003**	**9.1900e-003**	**0.0168**	**0.0000**	**12.4753**	**12.4753**	**3.6900e-003**	**0.0000**	**12.5527**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	8.0000e-004	8.3100e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.2102	1.2102	7.0000e-005	0.0000	1.2117
Total	**5.5000e-004**	**8.0000e-004**	**8.3100e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2117**

3.7 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0662	0.0000	0.0662	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1983	0.1486	1.3000e-004		0.0105	0.0105		9.6500e-003	9.6500e-003	0.0000	12.7227	12.7227	3.7600e-003	0.0000	12.8016
Total	**0.0181**	**0.1983**	**0.1486**	**1.3000e-004**	**0.0662**	**0.0105**	**0.0767**	**0.0364**	**9.6500e-003**	**0.0461**	**0.0000**	**12.7227**	**12.7227**	**3.7600e-003**	**0.0000**	**12.8016**

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	4.9000e-004	7.2000e-004	7.4800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0891	1.0891	7.0000e-005	0.0000	1.0905
Total	**4.9000e-004**	**7.2000e-004**	**7.4800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0891**	**1.0891**	**7.0000e-005**	**0.0000**	**1.0905**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0258	0.0000	0.0258	0.0142	0.0000	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1983	0.1486	1.3000e-004		0.0105	0.0105		9.6500e-003	9.6500e-003	0.0000	12.7227	12.7227	3.7600e-003	0.0000	12.8016
Total	**0.0181**	**0.1983**	**0.1486**	**1.3000e-004**	**0.0258**	**0.0105**	**0.0363**	**0.0142**	**9.6500e-003**	**0.0239**	**0.0000**	**12.7227**	**12.7227**	**3.7600e-003**	**0.0000**	**12.8016**

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	4.9000e-004	7.2000e-004	7.4800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0891	1.0891	7.0000e-005	0.0000	1.0905
Total	**4.9000e-004**	**7.2000e-004**	**7.4800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0891**	**1.0891**	**7.0000e-005**	**0.0000**	**1.0905**

3.8 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2534	2.0471	1.2399	1.7600e-003		0.1459	0.1459		0.1374	0.1374	0.0000	160.9821	160.9821	0.0409	0.0000	161.8417
Total	**0.2534**	**2.0471**	**1.2399**	**1.7600e-003**		**0.1459**	**0.1459**		**0.1374**	**0.1374**	**0.0000**	**160.9821**	**160.9821**	**0.0409**	**0.0000**	**161.8417**

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	0.0909	0.9147	1.0670	1.7000e-003	0.0479	0.0174	0.0654	0.0137	0.0160	0.0297	0.0000	157.0838	157.0838	1.4000e-003	0.0000	157.1133
Worker	0.1930	0.2823	2.9241	5.2200e-003	0.4247	4.0800e-003	0.4288	0.1128	3.7300e-003	0.1165	0.0000	425.8708	425.8708	0.0254	0.0000	426.4051
Total	**0.2839**	**1.1970**	**3.9911**	**6.9200e-003**	**0.4726**	**0.0215**	**0.4941**	**0.1265**	**0.0198**	**0.1462**	**0.0000**	**582.9547**	**582.9547**	**0.0268**	**0.0000**	**583.5184**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2534	2.0471	1.2399	1.7600e-003		0.1459	0.1459		0.1374	0.1374	0.0000	160.9819	160.9819	0.0409	0.0000	161.8415
Total	**0.2534**	**2.0471**	**1.2399**	**1.7600e-003**		**0.1459**	**0.1459**		**0.1374**	**0.1374**	**0.0000**	**160.9819**	**160.9819**	**0.0409**	**0.0000**	**161.8415**

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	0.0909	0.9147	1.0670	1.7000e-003	0.0479	0.0174	0.0654	0.0137	0.0160	0.0297	0.0000	157.0838	157.0838	1.4000e-003	0.0000	157.1133
Worker	0.1930	0.2823	2.9241	5.2200e-003	0.4247	4.0800e-003	0.4288	0.1128	3.7300e-003	0.1165	0.0000	425.8708	425.8708	0.0254	0.0000	426.4051
Total	**0.2839**	**1.1970**	**3.9911**	**6.9200e-003**	**0.4726**	**0.0215**	**0.4941**	**0.1265**	**0.0198**	**0.1462**	**0.0000**	**582.9547**	**582.9547**	**0.0268**	**0.0000**	**583.5184**

3.8 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4775	3.9189	2.4462	3.5000e-003		0.2762	0.2762		0.2598	0.2598	0.0000	318.4126	318.4126	0.0799	0.0000	320.0903
Total	**0.4775**	**3.9189**	**2.4462**	**3.5000e-003**		**0.2762**	**0.2762**		**0.2598**	**0.2598**	**0.0000**	**318.4126**	**318.4126**	**0.0799**	**0.0000**	**320.0903**

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	0.1561	1.5886	1.9440	3.3700e-003	0.0955	0.0267	0.1222	0.0273	0.0245	0.0518	0.0000	309.4940	309.4940	2.4600e-003	0.0000	309.5456

Worker	0.3445	0.5049	5.2406	0.0104	0.8462	7.5900e-003	0.8538	0.2247	6.9500e-003	0.2317	0.0000	821.1274	821.1274	0.0464	0.0000	822.1019
Total	**0.5005**	**2.0934**	**7.1846**	**0.0138**	**0.9417**	**0.0343**	**0.9760**	**0.2520**	**0.0315**	**0.2835**	**0.0000**	**1,130.6214**	**1,130.6214**	**0.0489**	**0.0000**	**1,131.6475**

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	0.4775	3.9189	2.4462	3.5000e-003		0.2762	0.2762		0.2598	0.2598	0.0000	318.4122	318.4122	0.0799	0.0000	320.0899
Total	**0.4775**	**3.9189**	**2.4462**	**3.5000e-003**		**0.2762**	**0.2762**		**0.2598**	**0.2598**	**0.0000**	**318.4122**	**318.4122**	**0.0799**	**0.0000**	**320.0899**

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	0.1561	1.5886	1.9440	3.3700e-003	0.0955	0.0267	0.1222	0.0273	0.0245	0.0518	0.0000	309.4940	309.4940	2.4600e-003	0.0000	309.5456
Worker	0.3445	0.5049	5.2406	0.0104	0.8462	7.5900e-003	0.8538	0.2247	6.9500e-003	0.2317	0.0000	821.1274	821.1274	0.0464	0.0000	822.1019
Total	**0.5005**	**2.0934**	**7.1846**	**0.0138**	**0.9417**	**0.0343**	**0.9760**	**0.2520**	**0.0315**	**0.2835**	**0.0000**	**1,130.6214**	**1,130.6214**	**0.0489**	**0.0000**	**1,131.6475**

3.8 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563
Total	**0.4445**	**3.7201**	**2.4151**	**3.5000e-003**		**0.2567**	**0.2567**		**0.2412**	**0.2412**	**0.0000**	**316.0104**	**316.0104**	**0.0784**	**0.0000**	**317.6563**

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	0.1378	1.4021	1.8074	3.3700e-003	0.0956	0.0222	0.1177	0.0273	0.0204	0.0477	0.0000	306.0800	306.0800	2.2200e-003	0.0000	306.1266
Worker	0.3100	0.4554	4.7324	0.0104	0.8462	7.2000e-003	0.8534	0.2247	6.6200e-003	0.2314	0.0000	792.7533	792.7533	0.0427	0.0000	793.6500
Total	**0.4478**	**1.8575**	**6.5397**	**0.0138**	**0.9417**	**0.0294**	**0.9711**	**0.2520**	**0.0270**	**0.2790**	**0.0000**	**1,098.8333**	**1,098.8333**	**0.0449**	**0.0000**	**1,099.7766**

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	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0101	316.0101	0.0784	0.0000	317.6560
Total	**0.4445**	**3.7201**	**2.4151**	**3.5000e-003**		**0.2567**	**0.2567**		**0.2412**	**0.2412**	**0.0000**	**316.0101**	**316.0101**	**0.0784**	**0.0000**	**317.6560**

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	0.1378	1.4021	1.8074	3.3700e-003	0.0956	0.0222	0.1177	0.0273	0.0204	0.0477	0.0000	306.0800	306.0800	2.2200e-003	0.0000	306.1266
Worker	0.3100	0.4554	4.7324	0.0104	0.8462	7.2000e-003	0.8534	0.2247	6.6200e-003	0.2314	0.0000	792.7533	792.7533	0.0427	0.0000	793.6500
Total	**0.4478**	**1.8575**	**6.5397**	**0.0138**	**0.9417**	**0.0294**	**0.9711**	**0.2520**	**0.0270**	**0.2790**	**0.0000**	**1,098.8333**	**1,098.8333**	**0.0449**	**0.0000**	**1,099.7766**

3.8 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	0.1365	1.1619	0.7977	1.1800e-003		0.0784	0.0784		0.0736	0.0736	0.0000	105.3708	105.3708	0.0259	0.0000	105.9154
Total	**0.1365**	**1.1619**	**0.7977**	**1.1800e-003**		**0.0784**	**0.0784**		**0.0736**	**0.0736**	**0.0000**	**105.3708**	**105.3708**	**0.0259**	**0.0000**	**105.9154**

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	0.0425	0.4299	0.5775	1.1300e-003	0.0322	6.6700e-003	0.0389	9.2000e-003	6.1300e-003	0.0153	0.0000	101.5270	101.5270	7.2000e-004	0.0000	101.5422
Worker	0.0936	0.1386	1.4390	3.5000e-003	0.2853	2.3400e-003	0.2876	0.0758	2.1600e-003	0.0779	0.0000	257.0262	257.0262	0.0133	0.0000	257.3052
Total	**0.1361**	**0.5685**	**2.0164**	**4.6300e-003**	**0.3175**	**9.0100e-003**	**0.3265**	**0.0850**	**8.2900e-003**	**0.0933**	**0.0000**	**358.5532**	**358.5532**	**0.0140**	**0.0000**	**358.8473**

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	0.1365	1.1619	0.7977	1.1800e-003		0.0784	0.0784		0.0736	0.0736	0.0000	105.3707	105.3707	0.0259	0.0000	105.9153
Total	**0.1365**	**1.1619**	**0.7977**	**1.1800e-003**		**0.0784**	**0.0784**		**0.0736**	**0.0736**	**0.0000**	**105.3707**	**105.3707**	**0.0259**	**0.0000**	**105.9153**

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	0.0425	0.4299	0.5775	1.1300e-003	0.0322	6.6700e-003	0.0389	9.2000e-003	6.1300e-003	0.0153	0.0000	101.5270	101.5270	7.2000e-004	0.0000	101.5422
Worker	0.0936	0.1386	1.4390	3.5000e-003	0.2853	2.3400e-003	0.2876	0.0758	2.1600e-003	0.0779	0.0000	257.0262	257.0262	0.0133	0.0000	257.3052
Total	**0.1361**	**0.5685**	**2.0164**	**4.6300e-003**	**0.3175**	**9.0100e-003**	**0.3265**	**0.0850**	**8.2900e-003**	**0.0933**	**0.0000**	**358.5532**	**358.5532**	**0.0140**	**0.0000**	**358.8473**

3.9 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						tons/yr								MT/yr		
Off-Road	0.0200	0.2131	0.1546	2.3000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	21.7281	21.7281	6.6600e-003	0.0000	21.8679
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0200**	**0.2131**	**0.1546**	**2.3000e-004**		**0.0120**	**0.0120**		**0.0110**	**0.0110**	**0.0000**	**21.7281**	**21.7281**	**6.6600e-003**	**0.0000**	**21.8679**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	8.4000e-004	8.7200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5568	1.5568	8.0000e-005	0.0000	1.5584
Total	**5.7000e-004**	**8.4000e-004**	**8.7200e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.5568**	**1.5568**	**8.0000e-005**	**0.0000**	**1.5584**

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	0.0200	0.2131	0.1546	2.3000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	21.7281	21.7281	6.6600e-003	0.0000	21.8679
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0200**	**0.2131**	**0.1546**	**2.3000e-004**		**0.0120**	**0.0120**		**0.0110**	**0.0110**	**0.0000**	**21.7281**	**21.7281**	**6.6600e-003**	**0.0000**	**21.8679**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	8.4000e-004	8.7200e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5568	1.5568	8.0000e-005	0.0000	1.5584
Total	**5.7000e-004**	**8.4000e-004**	**8.7200e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.5568**	**1.5568**	**8.0000e-005**	**0.0000**	**1.5584**

3.10 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	1.2963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6869

Total	**1.2998**	**0.0229**	**0.0196**	**3.0000e-005**		**1.8200e-003**	**1.8200e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**2.6809**	**2.6809**	**2.8000e-004**	**0.0000**	**2.6869**

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	4.4600e-003	6.6000e-003	0.0686	1.7000e-004	0.0136	1.1000e-004	0.0137	3.6100e-003	1.0000e-004	3.7100e-003	0.0000	12.2464	12.2464	6.3000e-004	0.0000	12.2597
Total	**4.4600e-003**	**6.6000e-003**	**0.0686**	**1.7000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6100e-003**	**1.0000e-004**	**3.7100e-003**	**0.0000**	**12.2464**	**12.2464**	**6.3000e-004**	**0.0000**	**12.2597**

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	1.2963					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0229	0.0196	3.0000e-005		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	2.6809	2.6809	2.8000e-004	0.0000	2.6869
Total	**1.2998**	**0.0229**	**0.0196**	**3.0000e-005**		**1.8200e-003**	**1.8200e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**2.6809**	**2.6809**	**2.8000e-004**	**0.0000**	**2.6869**

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	4.4600e-003	6.6000e-003	0.0686	1.7000e-004	0.0136	1.1000e-004	0.0137	3.6100e-003	1.0000e-004	3.7100e-003	0.0000	12.2464	12.2464	6.3000e-004	0.0000	12.2597
Total	**4.4600e-003**	**6.6000e-003**	**0.0686**	**1.7000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6100e-003**	**1.0000e-004**	**3.7100e-003**	**0.0000**	**12.2464**	**12.2464**	**6.3000e-004**	**0.0000**	**12.2597**

CalEEMod Output Files

Operation

Existing plus Project

MGA

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2013

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 630.89 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblProjectCharacteristics	OperationalYear	2014	2013
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	0.32
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.15
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	2.23
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00

tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	43.9792	123.3843	479.7686	0.8237	58.5395	2.4095	60.9490	15.6363	2.2120	17.8483		77,914.6641	77,914.6641	3.9341		77,997.2797
Total	**70.0278**	**126.6278**	**540.8992**	**0.8426**	**58.5395**	**3.8614**	**62.4009**	**15.6363**	**3.6541**	**19.2903**	**0.0000**	**95,998.9686**	**95,998.9686**	**4.3928**	**0.3296**	**96,193.4054**

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	43.9792	123.3843	479.7686	0.8237	58.5395	2.4095	60.9490	15.6363	2.2120	17.8483		77,914.6641	77,914.6641	3.9341		77,997.2797
Total	**70.0278**	**126.6278**	**540.8992**	**0.8426**	**58.5395**	**3.8614**	**62.4009**	**15.6363**	**3.6541**	**19.2903**	**0.0000**	**95,998.9686**	**95,998.9686**	**4.3928**	**0.3296**	**96,193.4054**

	ROG	**NOx**	**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**

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	43.9792	123.3843	479.7686	0.8237	58.5395	2.4095	60.9490	15.6363	2.2120	17.8483		77,914.6641	77,914.6641	3.9341		77,997.2797
Unmitigated	43.9792	123.3843	479.7686	0.8237	58.5395	2.4095	60.9490	15.6363	2.2120	17.8483		77,914.6641	77,914.6641	3.9341		77,997.2797

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	474.57	68.10	31.92	1,193,558	1,193,558
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	8,157.50	6,310.92	4,949.94	23,930,003	23,930,003

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516585	0.060682	0.179878	0.141431	0.041593	0.006668	0.014646	0.027063	0.001927	0.002535	0.004295	0.000605	0.002091

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
NaturalGas Unmitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407

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					
Apartments Mid Rise	16519.6	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
General Office Building	1129.78	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243

Office Park	6955.84	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2165.18	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	61.7808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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					
General Office Building	1.12978	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6.95584	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2.16518	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	0.0617808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Apartments Mid Rise	16.5196	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Unmitigated	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.9849	0.7100	59.5595	3.0500e-003		0.3132	0.3132		0.3132	0.3132		104.0457	104.0457	0.1141		106.4420

Total	**25.7592**	**0.7101**	**59.6336**	**3.0500e-003**		**1.2520**	**1.2520**		**1.2421**	**1.2421**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3982**	**0.2718**	**15,020.1850**

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.9849	0.7100	59.5595	3.0500e-003		0.3132	0.3132		0.3132	0.3132		104.0457	104.0457	0.1141		106.4420
Total	**25.7592**	**0.7101**	**59.6336**	**3.0500e-003**		**1.2520**	**1.2520**		**1.2421**	**1.2421**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3982**	**0.2718**	**15,020.1850**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

MGA

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2013
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblProjectCharacteristics	OperationalYear	2014	2013
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	0.32
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.15
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	2.23
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	42.2980	117.1156	490.1222	0.8675	58.5395	2.3937	60.9332	15.6363	2.1975	17.8338		81,982.0323	81,982.0323	3.9316		82,064.5956
Total	**68.3466**	**120.3592**	**551.2528**	**0.8863**	**58.5395**	**3.8456**	**62.3851**	**15.6363**	**3.6395**	**19.2758**	**0.0000**	**100,066.3368**	**100,066.3368**	**4.3903**	**0.3296**	**100,260.7213**

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	42.2980	117.1156	490.1222	0.8675	58.5395	2.3937	60.9332	15.6363	2.1975	17.8338		81,982.0323	81,982.0323	3.9316		82,064.5956
Total	**68.3466**	**120.3592**	**551.2528**	**0.8863**	**58.5395**	**3.8456**	**62.3851**	**15.6363**	**3.6395**	**19.2758**	**0.0000**	**100,066.3368**	**100,066.3368**	**4.3903**	**0.3296**	**100,260.7213**

	ROG	**NOx**	**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**

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	42.2980	117.1156	490.1222	0.8675	58.5395	2.3937	60.9332	15.6363	2.1975	17.8338		81,982.0323	81,982.0323	3.9316		82,064.5956
Unmitigated	42.2980	117.1156	490.1222	0.8675	58.5395	2.3937	60.9332	15.6363	2.1975	17.8338		81,982.0323	81,982.0323	3.9316		82,064.5956

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	474.57	68.10	31.92	1,193,558	1,193,558
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	8,157.50	6,310.92	4,949.94	23,930,003	23,930,003

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516585	0.060682	0.179878	0.141431	0.041593	0.006668	0.014646	0.027063	0.001927	0.002535	0.004295	0.000605	0.002091

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
NaturalGas Unmitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407

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					
General Office Building	1129.78	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6955.84	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2165.18	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771

Strip Mall	61.7808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Apartments Mid Rise	16519.6	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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					
General Office Building	1.12978	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6.95584	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2.16518	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	0.0617808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Apartments Mid Rise	16.5196	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850
Unmitigated	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.9849	0.7100	59.5595	3.0500e-003		0.3132	0.3132		0.3132	0.3132		104.0457	104.0457	0.1141		106.4420

Total	25.7592	0.7101	59.6336	3.0500e-003		1.2520	1.2520		1.2421	1.2421	0.0000	14,927.5751	14,927.5751	0.3982	0.2718	15,020.1850

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.9849	0.7100	59.5595	3.0500e-003		0.3132	0.3132		0.3132	0.3132		104.0457	104.0457	0.1141		106.4420
Total	**25.7592**	**0.7101**	**59.6336**	**3.0500e-003**		**1.2520**	**1.2520**		**1.2421**	**1.2421**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3982**	**0.2718**	**15,020.1850**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

MGA

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2013
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblProjectCharacteristics	OperationalYear	2014	2013
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	0.32
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.15
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	2.23
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	4.3559	0.0888	7.4459	3.8000e-004		0.0509	0.0509		0.0508	0.0508	0.0000	179.8946	179.8946	0.0162	3.0800e-003	181.1893
Energy	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	2,531.4295	2,531.4295	0.1024	0.0287	2,542.4717
Mobile	6.5886	19.8396	76.4815	0.1314	9.0599	0.3779	9.4378	2.4236	0.3470	2.7705	0.0000	11,269.0366	11,269.0366	0.5618	0.0000	11,280.8333
Waste						0.0000	0.0000		0.0000	0.0000	116.5554	0.0000	116.5554	6.8882	0.0000	261.2081
Water						0.0000	0.0000		0.0000	0.0000	29.4409	527.5690	557.0100	3.0481	0.0764	644.7098
Total	**10.9974**	**20.3907**	**84.2006**	**0.1346**	**9.0599**	**0.4653**	**9.5252**	**2.4236**	**0.4342**	**2.8578**	**145.9963**	**14,507.9297**	**14,653.9260**	**10.6166**	**0.1082**	**14,910.4122**

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	4.3559	0.0888	7.4459	3.8000e-004		0.0509	0.0509		0.0508	0.0508	0.0000	179.8946	179.8946	0.0162	3.0800e-003	181.1893
Energy	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	2,531.4295	2,531.4295	0.1024	0.0287	2,542.4717
Mobile	6.5886	19.8396	76.4815	0.1314	9.0599	0.3779	9.4378	2.4236	0.3470	2.7705	0.0000	11,269.0366	11,269.0366	0.5618	0.0000	11,280.8333
Waste						0.0000	0.0000		0.0000	0.0000	116.5554	0.0000	116.5554	6.8882	0.0000	261.2081
Water						0.0000	0.0000		0.0000	0.0000	29.4409	527.5690	557.0100	3.0476	0.0763	644.6629
Total	**10.9974**	**20.3907**	**84.2006**	**0.1346**	**9.0599**	**0.4653**	**9.5252**	**2.4236**	**0.4342**	**2.8578**	**145.9963**	**14,507.9297**	**14,653.9260**	**10.6161**	**0.1081**	**14,910.3652**

	ROG	NOx	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	0.01	0.11	0.00

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	6.5886	19.8396	76.4815	0.1314	9.0599	0.3779	9.4378	2.4236	0.3470	2.7705	0.0000	11,269.03 66	11,269.036 6	0.5618	0.0000	11,280.83 33
Unmitigated	6.5886	19.8396	76.4815	0.1314	9.0599	0.3779	9.4378	2.4236	0.3470	2.7705	0.0000	11,269.03 66	11,269.036 6	0.5618	0.0000	11,280.83 33

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	474.57	68.10	31.92	1,193,558	1,193,558
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	8,157.50	6,310.92	4,949.94	23,930,003	23,930,003

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516585	0.060682	0.179878	0.141431	0.041593	0.006668	0.014646	0.027063	0.001927	0.002535	0.004295	0.000605	0.002091

5.0 Energy Detail

4.4 Fleet Mix

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	2,008.797 6	2,008.7976	0.0923	0.0191	2,016.659 1
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,008.797 6	2,008.7976	0.0923	0.0191	2,016.659 1
NaturalGas Mitigated	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	522.6320	522.6320	0.0100	9.5800e-003	525.8126
NaturalGas Unmitigated	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	522.6320	522.6320	0.0100	9.5800e-003	525.8126

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					
Apartments Mid Rise	6.02966e+006	0.0325	0.2778	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.7656	321.7656	6.1700e-003	5.9000e-003	323.7238
General Office Building	412370	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0056	22.0056	4.2000e-004	4.0000e-004	22.1396
Office Park	2.53888e+006	0.0137	0.1245	0.1045	7.5000e-004		9.4600e-003	9.4600e-003		9.4600e-003	9.4600e-003	0.0000	135.4845	135.4845	2.6000e-003	2.4800e-003	136.3090
Quality Restaurant	790290	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1729	42.1729	8.1000e-004	7.7000e-004	42.4295
Strip Mall	22550	1.2000e-004	1.1100e-003	9.3000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.2034	1.2034	2.0000e-005	2.0000e-005	1.2107
Total		**0.0528**	**0.4624**	**0.2732**	**2.8800e-003**		**0.0365**	**0.0365**		**0.0365**	**0.0365**	**0.0000**	**522.6319**	**522.6319**	**0.0100**	**9.5700e-003**	**525.8126**

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					
General Office Building	412370	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0056	22.0056	4.2000e-004	4.0000e-004	22.1396
Office Park	2.53888e+006	0.0137	0.1245	0.1045	7.5000e-004		9.4600e-003	9.4600e-003		9.4600e-003	9.4600e-003	0.0000	135.4845	135.4845	2.6000e-003	2.4800e-003	136.3090
Quality Restaurant	790290	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1729	42.1729	8.1000e-004	7.7000e-004	42.4295
Strip Mall	22550	1.2000e-004	1.1100e-003	9.3000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.2034	1.2034	2.0000e-005	2.0000e-005	1.2107
Apartments Mid Rise	6.02966e+006	0.0325	0.2778	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.7656	321.7656	6.1700e-003	5.9000e-003	323.7238
Total		**0.0528**	**0.4624**	**0.2732**	**2.8800e-003**		**0.0365**	**0.0365**		**0.0365**	**0.0365**	**0.0000**	**522.6319**	**522.6319**	**0.0100**	**9.5700e-003**	**525.8126**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.43519e+006	696.8702	0.0320	6.6300e-003	699.5974
General Office Building	671660	192.2069	8.8400e-003	1.8300e-003	192.9591
Office Park	3.65403e+006	1,045.6634	0.0481	9.9400e-003	1,049.7556
Quality Restaurant	117990	33.7648	1.5500e-003	3.2000e-004	33.8970
Strip Mall	140800	40.2923	1.8500e-003	3.8000e-004	40.4500
Total		**2,008.7976**	**0.0923**	**0.0191**	**2,016.6590**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.43519e+006	696.8702	0.0320	6.6300e-003	699.5974
General Office Building	671660	192.2069	8.8400e-003	1.8300e-003	192.9591
Office Park	3.65403e+006	1,045.6634	0.0481	9.9400e-003	1,049.7556
Quality Restaurant	117990	33.7648	1.5500e-003	3.2000e-004	33.8970
Strip Mall	140800	40.2923	1.8500e-003	3.8000e-004	40.4500
Total		**2,008.7976**	**0.0923**	**0.0191**	**2,016.6590**

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	4.3559	0.0888	7.4459	3.8000e-004		0.0509	0.0509		0.0508	0.0508	0.0000	179.8946	179.8946	0.0162	3.0800e-003	181.1893
Unmitigated	4.3559	0.0888	7.4459	3.8000e-004		0.0509	0.0509		0.0508	0.0508	0.0000	179.8946	179.8946	0.0162	3.0800e-003	181.1893

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0170	0.0000	9.3000e-004	0.0000		0.0117	0.0117		0.0116	0.0116	0.0000	168.0960	168.0960	3.2200e-003	3.0800e-003	169.1190
Landscaping	0.2481	0.0888	7.4449	3.8000e-004		0.0392	0.0392		0.0392	0.0392	0.0000	11.7986	11.7986	0.0129	0.0000	12.0703
Total	**4.3559**	**0.0888**	**7.4459**	**3.8000e-004**		**0.0509**	**0.0509**		**0.0508**	**0.0508**	**0.0000**	**179.8946**	**179.8946**	**0.0162**	**3.0800e-003**	**181.1893**

Mitigated

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

Architectural Coating	0.5864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0170	0.0000	9.3000e-004	0.0000		0.0117	0.0117		0.0116	0.0116	0.0000	168.0960	168.0960	3.2200e-003	3.0800e-003	169.1190
Landscaping	0.2481	0.0888	7.4449	3.8000e-004		0.0392	0.0392		0.0392	0.0392	0.0000	11.7986	11.7986	0.0129	0.0000	12.0703
Total	**4.3559**	**0.0888**	**7.4459**	**3.8000e-004**		**0.0509**	**0.0509**		**0.0508**	**0.0508**	**0.0000**	**179.8946**	**179.8946**	**0.0162**	**3.0800e-003**	**181.1893**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	557.0100	3.0476	0.0763	644.6629
Unmitigated	557.0100	3.0481	0.0764	644.7098

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	45.6078 / 28.7528	275.8262	1.4982	0.0376	318.9359
General Office Building	7.64255 / 4.68414	45.7945	0.2510	6.2900e-003	53.0168
Office Park	37.8235 / 23.1822	226.6402	1.2424	0.0311	262.3838
Quality Restaurant	0.910601 / 0.0581235	3.8668	0.0298	7.3000e-004	4.7211
Strip Mall	0.814798 / 0.499392	4.8823	0.0268	6.7000e-004	5.6523
Total		**557.0100**	**3.0481**	**0.0764**	**644.7098**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	45.6078 / 28.7528	275.8262	1.4979	0.0375	318.9128
General Office Building	7.64255 / 4.68414	45.7945	0.2510	6.2800e-003	53.0129
Office Park	37.8235 / 23.1822	226.6402	1.2421	0.0311	262.3646

Quality Restaurant	0.910601 / 0.0581235	3.8668	0.0298	7.3000e-004	4.7206
Strip Mall	0.814798 / 0.499392	4.8823	0.0268	6.7000e-004	5.6519
Total		**557.0100**	**3.0476**	**0.0763**	**644.6629**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	116.5554	6.8882	0.0000	261.2081
Unmitigated	116.5554	6.8882	0.0000	261.2081

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	322	65.3631	3.8629	0.0000	146.4829
General Office Building	39.99	8.1176	0.4797	0.0000	18.1921
Office Park	197.91	40.1739	2.3742	0.0000	90.0324
Quality Restaurant	2.74	0.5562	0.0329	0.0000	1.2465
Strip Mall	11.55	2.3446	0.1386	0.0000	5.2543
Total		**116.5554**	**6.8882**	**0.0000**	**261.2081**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	322	65.3631	3.8629	0.0000	146.4829
General Office Building	39.99	8.1176	0.4797	0.0000	18.1921
Office Park	197.91	40.1739	2.3742	0.0000	90.0324
Quality Restaurant	2.74	0.5562	0.0329	0.0000	1.2465

Strip Mall	11.55	2.3446	0.1386	0.0000	5.2543
Total		**116.5554**	**6.8882**	**0.0000**	**261.2081**

9.0 Operational Offroad

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

10.0 Vegetation

CalEEMod Output Files

Operation

Future plus Project

MGA

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	2.23
tblVehicleTrips	ST_TR	94.36	106.65

tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.32
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	212.81
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	168.8930	498.1936	1,872.8625	5.4012	379.7862	7.7110	387.4972	101.4813	7.1091	108.5905		433,525.9324	433,525.9324	15.9500		433,860.8825
Total	**194.7359**	**501.3996**	**1,932.4984**	**5.4200**	**379.7862**	**9.1679**	**388.9541**	**101.4813**	**8.5561**	**110.0375**	**0.0000**	**451,610.2369**	**451,610.2369**	**16.3969**	**0.3296**	**452,056.7586**

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	168.8930	498.1936	1,872.8625	5.4012	379.7862	7.7110	387.4972	101.4813	7.1091	108.5905		433,525.9324	433,525.9324	15.9500		433,860.8825
Total	**194.7359**	**501.3996**	**1,932.4984**	**5.4200**	**379.7862**	**9.1679**	**388.9541**	**101.4813**	**8.5561**	**110.0375**	**0.0000**	**451,610.2369**	**451,610.2369**	**16.3969**	**0.3296**	**452,056.7586**

	ROG	**NOx**	**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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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					
Mitigated	168.8930	498.1936	1,872.8625	5.4012	379.7862	7.7110	387.4972	101.4813	7.1091	108.5905		433,525.9324	433,525.9324	15.9500		433,860.8825
Unmitigated	168.8930	498.1936	1,872.8625	5.4012	379.7862	7.7110	387.4972	101.4813	7.1091	108.5905		433,525.9324	433,525.9324	15.9500		433,860.8825

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	45,288.10	474.57	68.10	109,556,682	109,556,682
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	52,971.03	6,717.39	4,986.12	132,293,127	132,293,127

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.000580	0.002146

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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					
NaturalGas Mitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
NaturalGas Unmitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407

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					
Apartments Mid Rise	16519.6	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
General Office Building	1129.78	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6955.84	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2165.18	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	61.7808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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					
General Office Building	1.12978	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6.95584	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2.16518	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	0.0617808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Apartments Mid Rise	16.5196	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Unmitigated	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429

Landscaping	1.7792	0.6725	58.0647	3.0500e-003		0.3181	0.3181		0.3181	0.3181		104.0457	104.0457	0.1022		106.1925
Total	**25.5535**	**0.6725**	**58.1388**	**3.0500e-003**		**1.2569**	**1.2569**		**1.2471**	**1.2471**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3864**	**0.2718**	**15,019.9354**

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.7792	0.6725	58.0647	3.0500e-003		0.3181	0.3181		0.3181	0.3181		104.0457	104.0457	0.1022		106.1925
Total	**25.5535**	**0.6725**	**58.1388**	**3.0500e-003**		**1.2569**	**1.2569**		**1.2471**	**1.2471**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3864**	**0.2718**	**15,019.9354**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

MGA

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00

tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	2.23
tblVehicleTrips	ST_TR	94.36	106.65
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.32
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	212.81
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	164.2550	474.3268	1,903.3871	5.6865	379.7862	7.6846	387.4708	101.4813	7.0849	108.5662		455,186.4310	455,186.4310	15.9339		455,521.0425
Total	**190.0979**	**477.5328**	**1,963.0231**	**5.7054**	**379.7862**	**9.1415**	**388.9277**	**101.4813**	**8.5319**	**110.0132**	**0.0000**	**473,270.7355**	**473,270.7355**	**16.3807**	**0.3296**	**473,716.9187**

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Energy	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
Mobile	164.2550	474.3268	1,903.3871	5.6865	379.7862	7.6846	387.4708	101.4813	7.0849	108.5662		455,186.4310	455,186.4310	15.9339		455,521.0425
Total	**190.0979**	**477.5328**	**1,963.0231**	**5.7054**	**379.7862**	**9.1415**	**388.9277**	**101.4813**	**8.5319**	**110.0132**	**0.0000**	**473,270.7355**	**473,270.7355**	**16.3807**	**0.3296**	**473,716.9187**

	ROG	NOx	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**

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	164.2550	474.3268	1,903.3871	5.6865	379.7862	7.6846	387.4708	101.4813	7.0849	108.5662		455,186.4310	455,186.4310	15.9339		455,521.0425
Unmitigated	164.2550	474.3268	1,903.3871	5.6865	379.7862	7.6846	387.4708	101.4813	7.0849	108.5662		455,186.4310	455,186.4310	15.9339		455,521.0425

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	45,288.10	474.57	68.10	109,556,682	109,556,682
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	52,971.03	6,717.39	4,986.12	132,293,127	132,293,127

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.000580	0.002146

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407
NaturalGas Unmitigated	0.2894	2.5334	1.4971	0.0158		0.1999	0.1999		0.1999	0.1999		3,156.7294	3,156.7294	0.0605	0.0579	3,175.9407

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					
Apartments Mid Rise	16519.6	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
General Office Building	1129.78	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6955.84	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2165.18	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	61.7808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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					
General Office Building	1.12978	0.0122	0.1108	0.0930	6.6000e-004		8.4200e-003	8.4200e-003		8.4200e-003	8.4200e-003		132.9154	132.9154	2.5500e-003	2.4400e-003	133.7243
Office Park	6.95584	0.0750	0.6820	0.5728	4.0900e-003		0.0518	0.0518		0.0518	0.0518		818.3346	818.3346	0.0157	0.0150	823.3148
Quality Restaurant	2.16518	0.0234	0.2123	0.1783	1.2700e-003		0.0161	0.0161		0.0161	0.0161		254.7268	254.7268	4.8800e-003	4.6700e-003	256.2771
Strip Mall	0.0617808	6.7000e-004	6.0600e-003	5.0900e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		7.2683	7.2683	1.4000e-004	1.3000e-004	7.3126
Apartments Mid Rise	16.5196	0.1782	1.5224	0.6478	9.7200e-003		0.1231	0.1231		0.1231	0.1231		1,943.4843	1,943.4843	0.0373	0.0356	1,955.3120
Total		**0.2894**	**2.5334**	**1.4971**	**0.0158**		**0.1999**	**0.1999**		**0.1999**	**0.1999**		**3,156.7294**	**3,156.7294**	**0.0605**	**0.0579**	**3,175.9407**

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	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354
Unmitigated	25.5535	0.6725	58.1388	3.0500e-003		1.2569	1.2569		1.2471	1.2471	0.0000	14,927.5751	14,927.5751	0.3864	0.2718	15,019.9354

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.7792	0.6725	58.0647	3.0500e-003		0.3181	0.3181		0.3181	0.3181		104.0457	104.0457	0.1022		106.1925
Total	**25.5535**	**0.6725**	**58.1388**	**3.0500e-003**		**1.2569**	**1.2569**		**1.2471**	**1.2471**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3864**	**0.2718**	**15,019.9354**

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	3.2132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	19.2023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.3588	6.0000e-005	0.0741	0.0000		0.9388	0.9388		0.9289	0.9289	0.0000	14,823.5294	14,823.5294	0.2841	0.2718	14,913.7429
Landscaping	1.7792	0.6725	58.0647	3.0500e-003		0.3181	0.3181		0.3181	0.3181		104.0457	104.0457	0.1022		106.1925
Total	**25.5535**	**0.6725**	**58.1388**	**3.0500e-003**		**1.2569**	**1.2569**		**1.2471**	**1.2471**	**0.0000**	**14,927.5751**	**14,927.5751**	**0.3864**	**0.2718**	**15,019.9354**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

MGA

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	43.00	1000sqft	0.99	43,000.00	0
Office Park	212.81	1000sqft	4.89	212,815.00	0
Quality Restaurant	3.00	1000sqft	0.07	3,000.00	0
Apartments Mid Rise	700.00	Dwelling Unit	18.42	700,000.00	2002
Strip Mall	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	595.00	700.00
tblFireplaces	NumberNoFireplace	70.00	0.00
tblFireplaces	NumberWood	35.00	0.00
tblGrading	AcresOfGrading	5.00	0.10
tblGrading	AcresOfGrading	5.50	20.00
tblGrading	MaterialExported	0.00	15,218.00
tblLandUse	LandUseSquareFeet	212,810.00	212,815.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblTripsAndVMT	HaulingTripNumber	749.00	632.00
tblTripsAndVMT	HaulingTripNumber	1,902.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblVehicleTrips	ST_TR	7.16	7.23
tblVehicleTrips	ST_TR	2.37	11.75
tblVehicleTrips	ST_TR	1.64	2.23
tblVehicleTrips	ST_TR	94.36	106.65

tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	6.07	6.13
tblVehicleTrips	SU_TR	0.98	4.86
tblVehicleTrips	SU_TR	0.76	0.32
tblVehicleTrips	SU_TR	72.16	81.56
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	11.01	54.58
tblVehicleTrips	WD_TR	11.42	212.81
tblVehicleTrips	WD_TR	89.95	101.67
tblVehicleTrips	WD_TR	44.32	34.18
tblWoodstoves	NumberCatalytic	35.00	0.00
tblWoodstoves	NumberNoncatalytic	35.00	0.00

2.0 Emissions Summary

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	4.3302	0.0841	7.2590	3.8000e-004		0.0515	0.0515		0.0514	0.0514	0.0000	179.8946	179.8946	0.0148	3.0800e-003	181.1610
Energy	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	2,531.4295	2,531.4295	0.1024	0.0287	2,542.4717
Mobile	21.6360	68.3390	254.4630	0.7347	50.1458	1.0338	51.1796	13.4195	0.9531	14.3726	0.0000	53,464.8993	53,464.8993	1.9427	0.0000	53,505.6951
Waste						0.0000	0.0000		0.0000	0.0000	116.5554	0.0000	116.5554	6.8882	0.0000	261.2081
Water						0.0000	0.0000		0.0000	0.0000	29.4409	527.5690	557.0100	3.0481	0.0764	644.7098
Total	**26.0191**	**68.8854**	**261.9953**	**0.7380**	**50.1458**	**1.1218**	**51.2676**	**13.4195**	**1.0410**	**14.4604**	**145.9963**	**56,703.7925**	**56,849.7888**	**11.9962**	**0.1082**	**57,135.2457**

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	4.3302	0.0841	7.2590	3.8000e-004		0.0515	0.0515		0.0514	0.0514	0.0000	179.8946	179.8946	0.0148	3.0800e-003	181.1610
Energy	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	2,531.4295	2,531.4295	0.1024	0.0287	2,542.4717
Mobile	21.6360	68.3390	254.4630	0.7347	50.1458	1.0338	51.1796	13.4195	0.9531	14.3726	0.0000	53,464.8993	53,464.8993	1.9427	0.0000	53,505.6951
Waste						0.0000	0.0000		0.0000	0.0000	116.5554	0.0000	116.5554	6.8882	0.0000	261.2081
Water						0.0000	0.0000		0.0000	0.0000	29.4409	527.5690	557.0100	3.0476	0.0763	644.6629
Total	**26.0191**	**68.8854**	**261.9953**	**0.7380**	**50.1458**	**1.1218**	**51.2676**	**13.4195**	**1.0410**	**14.4604**	**145.9963**	**56,703.7925**	**56,849.7888**	**11.9956**	**0.1081**	**57,135.1988**

	ROG	**NOx**	**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**	**0.11**	**0.00**

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	21.6360	68.3390	254.4630	0.7347	50.1458	1.0338	51.1796	13.4195	0.9531	14.3726	0.0000	53,464.8993	53,464.8993	1.9427	0.0000	53,505.6951
Unmitigated	21.6360	68.3390	254.4630	0.7347	50.1458	1.0338	51.1796	13.4195	0.9531	14.3726	0.0000	53,464.8993	53,464.8993	1.9427	0.0000	53,505.6951

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,655.00	5,061.00	4291.00	15,927,345	15,927,345
General Office Building	2,346.94	505.25	208.98	5,729,106	5,729,106
Office Park	45,288.10	474.57	68.10	109,556,682	109,556,682
Quality Restaurant	305.01	319.95	244.68	424,991	424,991
Strip Mall	375.98	356.62	173.36	655,004	655,004
Total	52,971.03	6,717.39	4,986.12	132,293,127	132,293,127

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.000580	0.002146

5.0 Energy Detail

4.4 Fleet Mix

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	2,008.7976	2,008.7976	0.0923	0.0191	2,016.6591
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,008.7976	2,008.7976	0.0923	0.0191	2,016.6591
NaturalGas Mitigated	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	522.6320	522.6320	0.0100	9.5800e-003	525.8126

NaturalGas Unmitigated	0.0528	0.4624	0.2732	2.8800e-003		0.0365	0.0365		0.0365	0.0365	0.0000	522.6320	522.6320	0.0100	9.5800e-003	525.8126

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					
Apartments Mid Rise	6.02966e+006	0.0325	0.2778	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.7656	321.7656	6.1700e-003	5.9000e-003	323.7238
General Office Building	412370	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0056	22.0056	4.2000e-004	4.0000e-004	22.1396
Office Park	2.53888e+006	0.0137	0.1245	0.1045	7.5000e-004		9.4600e-003	9.4600e-003		9.4600e-003	9.4600e-003	0.0000	135.4845	135.4845	2.6000e-003	2.4800e-003	136.3090
Quality Restaurant	790290	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1729	42.1729	8.1000e-004	7.7000e-004	42.4295
Strip Mall	22550	1.2000e-004	1.1100e-003	9.3000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.2034	1.2034	2.0000e-005	2.0000e-005	1.2107
Total		**0.0528**	**0.4624**	**0.2732**	**2.8800e-003**		**0.0365**	**0.0365**		**0.0365**	**0.0365**	**0.0000**	**522.6319**	**522.6319**	**0.0100**	**9.5700e-003**	**525.8126**

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					
Apartments Mid Rise	6.02966e+006	0.0325	0.2778	0.1182	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.7656	321.7656	6.1700e-003	5.9000e-003	323.7238
General Office Building	412370	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0056	22.0056	4.2000e-004	4.0000e-004	22.1396
Office Park	2.53888e+006	0.0137	0.1245	0.1045	7.5000e-004		9.4600e-003	9.4600e-003		9.4600e-003	9.4600e-003	0.0000	135.4845	135.4845	2.6000e-003	2.4800e-003	136.3090
Quality Restaurant	790290	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1729	42.1729	8.1000e-004	7.7000e-004	42.4295
Strip Mall	22550	1.2000e-004	1.1100e-003	9.3000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.2034	1.2034	2.0000e-005	2.0000e-005	1.2107
Total		**0.0528**	**0.4624**	**0.2732**	**2.8800e-003**		**0.0365**	**0.0365**		**0.0365**	**0.0365**	**0.0000**	**522.6319**	**522.6319**	**0.0100**	**9.5700e-003**	**525.8126**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.43519e+006	696.8702	0.0320	6.6300e-003	699.5974
General Office Building	671660	192.2069	8.8400e-003	1.8300e-003	192.9591
Office Park	3.65403e+006	1,045.6634	0.0481	9.9400e-003	1,049.7556
Quality Restaurant	117990	33.7648	1.5500e-003	3.2000e-004	33.8970
Strip Mall	140800	40.2923	1.8500e-003	3.8000e-004	40.4500
Total		**2,008.7976**	**0.0923**	**0.0191**	**2,016.6590**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.43519e+006	696.8702	0.0320	6.6300e-003	699.5974
General Office Building	671660	192.2069	8.8400e-003	1.8300e-003	192.9591
Office Park	3.65403e+006	1,045.6634	0.0481	9.9400e-003	1,049.7556
Quality Restaurant	117990	33.7648	1.5500e-003	3.2000e-004	33.8970
Strip Mall	140800	40.2923	1.8500e-003	3.8000e-004	40.4500
Total		**2,008.7976**	**0.0923**	**0.0191**	**2,016.6590**

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	4.3302	0.0841	7.2590	3.8000e-004		0.0515	0.0515		0.0514	0.0514	0.0000	179.8946	179.8946	0.0148	3.0800e-003	181.1610
Unmitigated	4.3302	0.0841	7.2590	3.8000e-004		0.0515	0.0515		0.0514	0.0514	0.0000	179.8946	179.8946	0.0148	3.0800e-003	181.1610

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0170	0.0000	9.3000e-004	0.0000		0.0117	0.0117		0.0116	0.0116	0.0000	168.0960	168.0960	3.2200e-003	3.0800e-003	169.1190
Landscaping	0.2224	0.0841	7.2581	3.8000e-004		0.0398	0.0398		0.0398	0.0398	0.0000	11.7986	11.7986	0.0116	0.0000	12.0420
Total	**4.3302**	**0.0841**	**7.2590**	**3.8000e-004**		**0.0515**	**0.0515**		**0.0514**	**0.0514**	**0.0000**	**179.8946**	**179.8946**	**0.0148**	**3.0800e-003**	**181.1610**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	3.5044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0170	0.0000	9.3000e-004	0.0000		0.0117	0.0117		0.0116	0.0116	0.0000	168.0960	168.0960	3.2200e-003	3.0800e-003	169.1190
Landscaping	0.2224	0.0841	7.2581	3.8000e-004		0.0398	0.0398		0.0398	0.0398	0.0000	11.7986	11.7986	0.0116	0.0000	12.0420
Total	**4.3302**	**0.0841**	**7.2590**	**3.8000e-004**		**0.0515**	**0.0515**		**0.0514**	**0.0514**	**0.0000**	**179.8946**	**179.8946**	**0.0148**	**3.0800e-003**	**181.1610**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	557.0100	3.0476	0.0763	644.6629
Unmitigated	557.0100	3.0481	0.0764	644.7098

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	45.6078 / 28.7528	275.8262	1.4982	0.0376	318.9359
General Office Building	7.64255 / 4.68414	45.7945	0.2510	6.2900e-003	53.0168
Office Park	37.8235 / 23.1822	226.6402	1.2424	0.0311	262.3838
Quality Restaurant	0.910601 / 0.0581235	3.8668	0.0298	7.3000e-004	4.7211
Strip Mall	0.814798 / 0.499392	4.8823	0.0268	6.7000e-004	5.6523
Total		**557.0100**	**3.0481**	**0.0764**	**644.7098**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	45.6078 / 28.7528	275.8262	1.4979	0.0375	318.9128
General Office Building	7.64255 / 4.68414	45.7945	0.2510	6.2800e-003	53.0129
Office Park	37.8235 / 23.1822	226.6402	1.2421	0.0311	262.3646
Quality Restaurant	0.910601 / 0.0581235	3.8668	0.0298	7.3000e-004	4.7206
Strip Mall	0.814798 / 0.499392	4.8823	0.0268	6.7000e-004	5.6519
Total		**557.0100**	**3.0476**	**0.0763**	**644.6629**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	116.5554	6.8882	0.0000	261.2081
Unmitigated	116.5554	6.8882	0.0000	261.2081

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	322	65.3631	3.8629	0.0000	146.4829
General Office Building	39.99	8.1176	0.4797	0.0000	18.1921
Office Park	197.91	40.1739	2.3742	0.0000	90.0324
Quality Restaurant	2.74	0.5562	0.0329	0.0000	1.2465
Strip Mall	11.55	2.3446	0.1386	0.0000	5.2543
Total		**116.5554**	**6.8882**	**0.0000**	**261.2081**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	322	65.3631	3.8629	0.0000	146.4829
General Office Building	39.99	8.1176	0.4797	0.0000	18.1921
Office Park	197.91	40.1739	2.3742	0.0000	90.0324
Quality Restaurant	2.74	0.5562	0.0329	0.0000	1.2465
Strip Mall	11.55	2.3446	0.1386	0.0000	5.2543
Total		**116.5554**	**6.8882**	**0.0000**	**261.2081**

9.0 Operational Offroad

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

10.0 Vegetation

Mobile Emissions

Criteria Pollutants and GHG

Proposed Project. Existing Plus Project - GHG emisisons

	g/day VMT	TOG	ROG	CO	SO2	NOx	PM2.5	PM10	CO2	CH4
Mitigated VMT	56,261	6,665	5,234	121,849	273	37,140	1,825	3,583	25,847,396	1,198
Unmitigated VMT	69,942	8,285	6,507	151,478	339	46,172	2,268	4,454	32,132,713	1,489

	lb/day	TOG	ROG	CO	SO2	NOx	PM2.5	PM10	CO2	CO2-diesel	CO2-gasoline	N2O from Diesel	N2O from Gasoline	N2O	CH4	CO2e
Mitigated VMT		14.7	11.5	268.6	0.6	81.9	4.0	7.9	56,983.8	8,467.0	48,516.8	0.3	3.4	3.7	2.6	58,034.4
Unmitigated VMT		18.3	14.3	334.0	0.7	101.8	5.0	9.8	70,840.6	10,525.9	60,314.6	0.3	4.2	4.6	3.3	72,146.6

MT/day **CO2e**	MT/year **CO2e**
26.3	9608.2
32.7	11944.7

-20% Reduction in GHGs

Gasoline	19.37	lb CO2 per Gal
Diesel	22.23	lb CO2 per Gal

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - § Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars Rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Proposed Project. Future Plus Project - GHG emisisons

	g/day VMT	TOG	ROG	CO	SO2	NOx	PM2.5	PM10	CO2	CH4
Mitigated VMT	56,261	3,707	2,783	70,682	276	22,661	1,472	3,211	22,179,848	763
Unmitigated VMT	69,942	4,609	3,460	87,870	344	28,172	1,829	3,992	27,573,327	949

	lb/day	TOG	ROG	CO	SO2	NOx	PM2.5	PM10	CO2	CO2-diesel	CO2-gasoline	N2O from Diesel	N2O from Gasoline	N2O	CH4	CO2e
Mitigated VMT		8.2	6.1	155.8	0.6	50.0	3.2	7.1	48,898.2	8,307.2	40,591.0	0.3	2.1	2.4	1.7	49,568.6
Unmitigated VMT		10.2	7.6	193.7	0.8	62.1	4.0	8.8	60,788.8	10,327.3	50,461.5	0.3	2.6	2.9	2.1	61,622.3

MT/day **CO2e**	MT/year **CO2e**
22.5	8206.7
28.0	10202.3

-20% Reduction in GHGs

Gasoline	19.37	lb CO2 per Gal
Diesel	22.23	lb CO2 per Gal

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - § Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars Rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Proposed Project. Summary of Emissions (Existing)

	BAU	Proposed	%decrease
Non-residential	1,682	1,466	13%
Residential	2,229	1,860	17%
Miscellanous	525	298	43%
Water	645	645	0%
Waste	261	261	0%
Mobile	11,945	9,608	20%
Area	12	12	0%
Construction	145	145	0%
PV	-	(80)	
Total	17,444	14,215	18.5%

Proposed Project. Summary of Emissions (Future)

	BAU	Proposed	%decrease
Non-residential	1,595	1,389	13%
Residential	2,134	1,785	16%
Miscellanous	497	282	43%
Mobile	10,202	8,207	20%
Waste	261	261	0%
Water	645	645	0%
Area	12	12	0%
Construction	145	145	0%
PV	-	(76)	
	15,491	12,650	18.3%

Emission Factors

Emission Factors Used For Exisiting Conditions

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
FleetMix	0.516585	0.060682	0.179878	0.141431	0.041593	0.006668	0.014646	0.027063	0.001927	0.002535	0.004295	0.000605	0.002091
CH4_IDLEX	0	0	0	0	0.001321	0.001031	0.010501	0.027722	0.026769	0	0	0.010262	0
CH4_RUNEX	0.016972	0.034753	0.023349	0.033196	0.018841	0.014251	0.009129	0.018238	0.004465	0	0	0.014324	0
CH4_STREX	0.014974	0.031162	0.018762	0.029007	0.030166	0.021142	0	0	0	0	0	0	0
CO_IDLEX	0	0	0	0	0.19206	0.154141	2.210057	3.155028	2.723374	0	0	1.759722	0
CO_RUNEX	1.563623	3.906046	2.144349	2.784167	1.965523	1.537801	1.973708	2.622837	2.185667	5.7697	25.901778	6.464901	7.470437
CO_STREX	3.016204	6.749177	4.203472	5.793093	5.903895	4.020542	25.093735	76.142553	12.281457	11.0797	9.658029	37.607422	11.641737
CO2_NBIO_IDLEX	0	0	0	0	8.458948	9.317451	604.873167	577.567229	573.835241	0	0	581.345143	0
CO2_NBIO_RUNEX	329.91453	384.126877	461.603302	592.017136	583.842615	562.791447	1,013.75	1,688.46	1,081.70	2,188.75	144.183632	1,145.22	667.335664
CO2_NBIO_STREX	68.80713	79.624859	95.219067	121.789168	44.969623	31.34719	64.178144	73.704186	38.406374	30.163589	47.523166	134.920976	34.756115
NOX_IDLEX	0	0	0	0	0.045654	0.096809	7.556565	6.372186	7.647388	0	0	8.302107	0
NOX_RUNEX	0.139452	0.377637	0.259887	0.368736	1.640554	2.629737	5.069595	9.070327	5.989138	13.644852	1.217613	8.581236	2.031107
NOX_STREX	0.208402	0.384616	0.413998	0.5686	1.505702	1.019175	2.453234	4.188793	1.613737	1.230975	0.307137	2.386611	1.013728
PM10_IDLEX	0	0	0	0	0.000495	0.001082	0.057511	0.044485	0.07704	0	0	0.06461	0
PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.046192	0.062999	0.112237	0.060014	0.091248	0.680263	0.036746	0.57642	0.050744
PM10_PMTW	0.008	0.008	0.008	0.008	0.008952	0.010003	0.011226	0.034693	0.010329	0.008	0.007999	0.011049	0.008598
PM10_RUNEX	0.002452	0.005766	0.00245	0.002546	0.009549	0.018126	0.156449	0.275342	0.155065	0.216479	0.000826	0.181571	0.032192
PM10_STREX	0.003103	0.006114	0.002996	0.003446	0.001665	0.001256	0.005352	0.007182	0.00158	0.000905	0.002607	0.008953	0.002608
PM25_IDLEX	0	0	0	0	0.000455	0.000996	0.05291	0.040926	0.070877	0	0	0.059441	0
PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.019797	0.027	0.048102	0.02572	0.039106	0.291541	0.015748	0.247037	0.021747
PM25_PMTW	0.002	0.002	0.002	0.002	0.002238	0.002501	0.002807	0.008673	0.002582	0.002	0.002	0.002762	0.00215
PM25_RUNEX	0.00223	0.005258	0.002237	0.002336	0.008787	0.016668	0.143925	0.253314	0.142658	0.199136	0.000657	0.166939	0.029535
PM25_STREX	0.002815	0.005576	0.00274	0.003167	0.001521	0.001115	0.004443	0.005638	0.001341	0.000799	0.002034	0.007577	0.002205
ROG_DIURN	0.083817	0.207869	0.086521	0.087519	0.003255	0.002254	0.004529	0.004066	0.001104	0.005848	1.028489	0.043366	1.618208
ROG_HTSK	0.173909	0.353478	0.179012	0.181713	0.077675	0.05788	0.193507	0.250533	0.030365	0.105322	0.523103	0.321153	0.104488
ROG_IDLEX	0	0	0	0	0.030742	0.023784	0.226084	0.596838	0.576331	0	0	0.220947	0
ROG_RESTL	0.064023	0.144213	0.068762	0.074233	0.001764	0.001219	0.002517	0.002443	0.000504	0.003196	0.59624	0.017932	0.619575
ROG_RUNEX	0.050674	0.132533	0.060466	0.083063	0.138036	0.1326	0.254925	0.409789	0.253989	0.845808	2.619136	0.619848	0.233288
ROG_RUNLS	0.411605	1.296991	0.60892	0.590461	0.453747	0.327734	0.792966	1.044847	0.299842	0.678953	1.98574	2.512859	2.13743
ROG_STREX	0.258631	0.541948	0.328494	0.510419	0.531019	0.366207	1.799036	3.341287	0.806773	0.806284	2.200396	2.672669	0.763638
SO2_IDLEX	0	0	0	0	0.000088	0.000094	0.005829	0.005566	0.00553	0	0	0.005602	0
SO2_RUNEX	0.003608	0.004172	0.004917	0.006206	0.005864	0.005581	0.009842	0.016288	0.01056	0.021236	0.001945	0.011211	0.006779
SO2_STREX	0.000787	0.000962	0.001072	0.001363	0.000563	0.000391	0.001098	0.002044	0.000606	0.000504	0.000701	0.002035	0.000557
TOG_DIURN	0.083817	0.207869	0.086521	0.087519	0.003255	0.002254	0.004529	0.004066	0.001104	0.005848	1.028489	0.043366	1.618208
TOG_HTSK	0.173909	0.353478	0.179012	0.181713	0.077675	0.05788	0.193507	0.250533	0.030365	0.105322	0.523103	0.321153	0.104488
TOG_IDLEX	0	0	0	0	0.032664	0.025481	0.257379	0.679455	0.656109	0	0	0.251531	0
TOG_RESTL	0.064023	0.144213	0.068762	0.074233	0.001764	0.001219	0.002517	0.002443	0.000504	0.003196	0.59624	0.017932	0.619575
TOG_RUNEX	0.068459	0.169317	0.084772	0.117539	0.161693	0.154358	0.292367	0.466981	0.296012	0.942851	2.8685	0.692478	0.273414
TOG_RUNLS	0.411605	1.296991	0.60892	0.590461	0.453747	0.327734	0.792966	1.044847	0.299842	0.678953	1.98574	2.512859	2.13743
TOG_STREX	0.276527	0.579235	0.350971	0.5452	0.567193	0.391487	1.928554	3.588472	0.863209	0.861666	2.368025	2.863887	0.818384

Emission Factors Used For Future Conditions

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
FleetMix	0.510142	0.059804	0.180842	0.139058	0.042603	0.006701	0.016107	0.033206	0.001939	0.002487	0.004384	0.00058	0.002146
CH4_IDLEX	0	0	0	0	0.001283	0.001004	0.007359	0.025255	0.020225	0	0	0.004386	0
CH4_RUNEX	0.010427	0.022107	0.01444	0.02381	0.012202	0.008325	0.004043	0.010554	0.002796	0	0	0.005508	0
CH4_STREX	0.006021	0.017159	0.008908	0.019298	0.021899	0.013063	0	0	0	0	0	0	0
CO_IDLEX	0	0	0	0	0.186028	0.149827	1.84923	3.056044	2.54605	0	0	1.02047	0
CO_RUNEX	0.818591	2.204588	1.158761	1.904007	1.101187	0.721241	0.786148	1.693261	1.055333	4.730269	20.97672	3.12825	2.024978
CO_STREX	1.517672	4.084876	2.235337	4.033944	4.25099	2.481176	15.533359	54.799493	9.255524	10.047063	9.972367	28.130897	6.526348
CO2_NBIO_IDLEX	0	0	0	0	7.869005	8.667964	582.51231	539.934377	545.879608	0	0	556.778237	0
CO2_NBIO_RUNEX	260.2183	315.741345	383.339062	506.472962	540.100856	521.102764	935.896075	1,559.63	1,038.40	1,969.98	143.808479	1,063.10	616.180844
CO2_NBIO_STREX	55.291121	66.305139	80.397242	106.426284	42.408322	28.930316	51.265351	51.598193	33.613398	28.061003	39.798289	118.471441	28.711126
NOX_IDLEX	0	0	0	0	0.046082	0.097341	5.269035	4.165371	5.135496	0	0	7.661822	0
NOX_RUNEX	0.075586	0.221348	0.128679	0.234533	1.057971	1.686392	2.098731	4.792627	2.904504	11.262464	1.164328	7.2064	1.332373
NOX_STREX	0.095479	0.236355	0.198881	0.380055	1.334401	0.881118	1.721179	3.581711	1.302997	1.174944	0.305521	2.063269	0.717044
PM10_IDLEX	0	0	0	0	0.000479	0.001048	0.014805	0.010033	0.01013	0	0	0.014018	0
PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.046212	0.062694	0.112907	0.060167	0.096708	0.678144	0.03675	0.56848	0.050333
PM10_PMTW	0.008	0.008	0.008	0.008	0.008954	0.009979	0.011255	0.034845	0.010563	0.008	0.008	0.011004	0.008581
PM10_RUNEX	0.001902	0.003852	0.001912	0.002191	0.006996	0.013419	0.054501	0.089103	0.04188	0.183781	0.000345	0.046864	0.023572
PM10_STREX	0.003183	0.004774	0.003191	0.003445	0.000999	0.000534	0.001691	0.001253	0.00065	0.000703	0.001066	0.004037	0.000782
PM25_IDLEX	0	0	0	0	0.000441	0.000964	0.013621	0.00923	0.00932	0	0	0.012897	0
PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.019805	0.026869	0.048389	0.025786	0.041446	0.290633	0.01575	0.243634	0.021571
PM25_PMTW	0.002	0.002	0.002	0.002	0.002238	0.002495	0.002814	0.008711	0.002641	0.002	0.002	0.002751	0.002145
PM25_RUNEX	0.001763	0.00357	0.001772	0.002025	0.006441	0.012348	0.05014	0.081975	0.03853	0.16907	0.000287	0.043113	0.021687
PM25_STREX	0.002951	0.004426	0.002959	0.003187	0.000921	0.000493	0.001521	0.001096	0.000595	0.000636	0.000876	0.003687	0.00071
ROG_DIURN	0.044188	0.160058	0.063604	0.090949	0.002708	0.001548	0.002548	0.00153	0.000975	0.005622	0.977516	0.032872	1.025089
ROG_HTSK	0.103534	0.285763	0.140455	0.204583	0.072334	0.044771	0.092441	0.067464	0.028166	0.096556	0.421768	0.21283	0.066201
ROG_IDLEX	0	0	0	0	0.029741	0.023059	0.158446	0.543725	0.435431	0	0	0.094435	0
ROG_RESTL	0.039841	0.123847	0.060934	0.088327	0.001652	0.000979	0.001584	0.001099	0.000528	0.003108	0.554141	0.014469	0.414683
ROG_RUNEX	0.016751	0.053122	0.023651	0.050306	0.080503	0.075213	0.10784	0.236438	0.121537	0.742275	2.401449	0.301965	0.075068
ROG_RUNLS	0.232464	0.970892	0.433122	0.608232	0.422391	0.250074	0.44326	0.300414	0.331337	0.773534	1.285009	1.958938	1.700701
ROG_STREX	0.106696	0.304179	0.157877	0.340939	0.387537	0.231349	0.943571	1.539364	0.568312	0.747634	2.070125	1.733795	0.367238
SO2_IDLEX	0	0	0	0	0.000088	0.000094	0.006041	0.005599	0.005661	0	0	0.005774	0
SO2_RUNEX	0.003597	0.004156	0.004887	0.006207	0.005823	0.005548	0.009762	0.016186	0.010875	0.020561	0.001968	0.011155	0.006647
SO2_STREX	0.000762	0.000917	0.001042	0.001344	0.000539	0.00036	0.00083	0.001468	0.000528	0.000486	0.000654	0.001782	0.000426
TOG_DIURN	0.044188	0.160058	0.063604	0.090949	0.002708	0.001548	0.002548	0.00153	0.000975	0.005622	0.977516	0.032872	1.025089
TOG_HTSK	0.103534	0.285763	0.140455	0.204583	0.072334	0.044771	0.092441	0.067464	0.028166	0.096556	0.421768	0.21283	0.066201
TOG_IDLEX	0	0	0	0	0.031612	0.02472	0.180379	0.618989	0.495705	0	0	0.107507	0
TOG_RESTL	0.039841	0.123847	0.060934	0.088327	0.001652	0.000979	0.001584	0.001099	0.000528	0.003108	0.554141	0.014469	0.414683
TOG_RUNEX	0.027467	0.076064	0.038487	0.074902	0.096049	0.088925	0.124376	0.269943	0.142398	0.826059	2.639004	0.338396	0.095128
TOG_RUNLS	0.232464	0.970892	0.433122	0.608232	0.422391	0.250074	0.44326	0.300414	0.331337	0.773534	1.285009	1.958938	1.700701
TOG_STREX	0.113924	0.324781	0.168572	0.364094	0.413822	0.24703	1.00812	1.644868	0.606897	0.798564	2.223247	1.851953	0.392299

CALINE4 FILE

Input and Output Files

```
WINNETKA AVE AND ROSCOE BLVD
1Carbon Monoxide
100          28       0       0       8      20  0.3048       1       1       0       0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25           25       6
25          -25       6
-25         -25       6
-25          25       6
38           38       6
38          -38       6
-38         -38       6
-38          38       6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1301        1158    1430    1430    1353    1214    1356    1356    1324    1163    1212    1212    1390    1184
1370    1370     143     139     161     206
0.92        1.69    1.56    0.92    0.92    1.69    1.56    0.92    0.92    1.69    1.51    0.92    0.92    1.69
1.51    0.92    1.34    1.34    1.34    1.34
```

```
0.000000E+00    5.000000E-01         7        1000.00       5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

```
WINNETKA AVE AND PARTHENIA ST
1Carbon Monoxide
100          28       0       0       8      20  0.3048       1       1       0               0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25           25       6
25          -25       6
-25         -25       6
-25          25       6
38           38       6
38          -38       6
-38         -38       6
-38          38       6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1430        1296    1451    1451    1274    1135    1279    1279    1360    1210    1244    1244    1052     931
1142    1142     134     139     150     121
0.92        1.69    1.42    0.92    0.92    1.69    1.42    0.92    0.92    1.69    1.60    0.92    0.92    1.69
1.60    0.92    1.31    1.31    1.34    1.34
```

```
0.000000E+00    5.000000E-01           7        1000.00       5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

```
WINNETKA AVE AND NORDHOFF ST
1Carbon Monoxide
100       28      0       0       8       20      0.3048  1       1       0       0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25        25      6
25        -25     6
-25       -25     6
-25       25      6
38        38      6
38        -38     6
-38       -38     6
-38       38      6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1         7.5     -1500   7.5     -500    0       33      0       0       0
1         7.5     -500    7.5     0       0       33      0       0       0
1         7.5     0       7.5     500     0       33      0       0       0
1         7.5     500     7.5     1500    0       33      0       0       0
1         -7.5    1500    -7.5    500     0       33      0       0       0
1         -7.5    500     -7.5    0       0       33      0       0       0
1         -7.5    0       -7.5    -500    0       33      0       0       0
1         -7.5    -500    -7.5    -1500   0       33      0       0       0
1         1500    7.5     500     7.5     0       33      0       0       0
1         500     7.5     0       7.5     0       33      0       0       0
1         0       7.5     -500    7.5     0       33      0       0       0
1         -500    7.5     -1500   7.5     0       33      0       0       0
1         -1500   -7.5    -500    -7.5    0       33      0       0       0
1         -500    -7.5    0       -7.5    0       33      0       0       0
1         0       -7.5    500     -7.5    0       33      0       0       0
1         500     -7.5    1500    -7.5    0       33      0       0       0
1         0       0       7.5     -500    0       33      0       0       0
1         0       0       -7.5    500     0       33      0       0       0
1         0       0       500     7.5     0       33      0       0       0
1         0       0       -500    -7.5    0       33      0       0       0
31111
1275      1022    1092    1092    1327    1268    1215    1215    1148    1030    1465    1465    725     612
703     703     253     59      118     113
0.92      1.69    1.31    0.92    0.92    1.69    1.31    0.92    0.92    1.69    1.65    0.92    0.92    1.65
1.34    0.92    1.28    1.28    1.37    1.37
```

```
0.000000E+00   5.000000E-01         7       1000.00       5.000000
0.000000E+00       0.500000      7       1000.00       5.000000       0.000000       15.600000
```

```
WINNETKA AND ROSCOE
1Carbon Monoxide
100         28       0       0       8      20  0.3048       1       1       0               0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25          25       6
25         -25       6
-25        -25       6
-25         25       6
38          38       6
38         -38       6
-38        -38       6
-38         38       6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1328        1163    1301    1301    1444    1289    1476    1476    1196    1066    1226    1226    1581    1400
1546    1546    165     155     130     181
0.92        1.69    1.51    0.92    0.92    1.69    1.51    0.92    0.92    1.69    1.51    0.92    0.92    1.69
1.51    0.92    1.34    1.34    1.34    1.34
```

```
0.000000E+00    5.000000E-01          7        1000.00       5.000000
0.000000E+00       0.500000      7       1000.00       5.000000       0.000000       15.600000
```

```
MASON AND PLUMMER
1Carbon Monoxide
100     28      0       0       8       20      0.3048  1       1       0       0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25      25      6
25      -25     6
-25     -25     6
-25     25      6
38      38      6
38      -38     6
-38     -38     6
-38     38      6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1569        1505    1764    1764     947     815     872     872     620     551     508     508     801     602
793     793      64     132      69     199
0.92        1.65    1.20    0.92    0.92    1.42    1.10    0.92    0.92    1.69    1.20    0.92    0.92    1.69
1.65    0.92    1.22    1.22    1.46    1.46
```

```
0.000000E+00    5.000000E-01           7        1000.00        5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

```
CORBIN AVE AND PLUMMERS ST
1Carbon Monoxide
100     28      0       0       8       20      0.3048  1       1       0       0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25      25      6
25      -25     6
-25     -25     6
-25     25      6
38      38      6
38      -38     6
-38     -38     6
-38     38      6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
924     857     752     752     1642    1551    1620    1620    1092    856     1123    1123    488     460
651     651     67      91      236     28
1.70    3.28    1.99    1.70    1.70    3.53    2.36    1.70    1.70    3.65    3.65    1.70    1.70    3.40
3.03    1.70    2.44    2.44    2.90    2.90
```

```
0.000000E+00    5.000000E-01           7        1000.00       5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

```
  CORBIN AVE AND PLUMMER ST
1Carbon Monoxide
100          28       0       0       8      20  0.3048       1       1       0               0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25           25       6
25          -25       6
-25         -25       6
-25          25       6
38           38       6
38          -38       6
-38         -38       6
-38          38       6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1072        995     880     880    1896    1796    1855    1855    1225     945    1285    1285     581     550
754     754      77     100     280      31
0.92        1.65    1.12    0.92    0.92    1.65    1.22    0.92    0.92    1.69    1.69    0.92    0.92    1.69
1.60    0.92    1.25    1.25    1.46    1.42
```

```
0.000000E+00    5.000000E-01          7        1000.00       5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

```
CORBIN AND PLUMMER
1Carbon Monoxide
100          28       0       0       8      20  0.3048       1       1       0               0
NE3
SE3
SW3
NW3
NE7
SE7
SW7
NW7
25           25       6
25          -25       6
-25         -25       6
-25          25       6
38           38       6
38          -38       6
-38         -38       6
-38          38       6
NF
NA
ND
NE
SF
SA
SD
SE
WF
WA
WD
WE
EF
EA
ED
EE
NL
SL
WL
EL
1       7.5     -1500   7.5     -500    0       33      0       0       0
1       7.5     -500    7.5     0       0       33      0       0       0
1       7.5     0       7.5     500     0       33      0       0       0
1       7.5     500     7.5     1500    0       33      0       0       0
1       -7.5    1500    -7.5    500     0       33      0       0       0
1       -7.5    500     -7.5    0       0       33      0       0       0
1       -7.5    0       -7.5    -500    0       33      0       0       0
1       -7.5    -500    -7.5    -1500   0       33      0       0       0
1       1500    7.5     500     7.5     0       33      0       0       0
1       500     7.5     0       7.5     0       33      0       0       0
1       0       7.5     -500    7.5     0       33      0       0       0
1       -500    7.5     -1500   7.5     0       33      0       0       0
1       -1500   -7.5    -500    -7.5    0       33      0       0       0
1       -500    -7.5    0       -7.5    0       33      0       0       0
1       0       -7.5    500     -7.5    0       33      0       0       0
1       500     -7.5    1500    -7.5    0       33      0       0       0
1       0       0       7.5     -500    0       33      0       0       0
1       0       0       -7.5    500     0       33      0       0       0
1       0       0       500     7.5     0       33      0       0       0
1       0       0       -500    -7.5    0       33      0       0       0
31111
1690        1543    1719    1719     956     851    1035    1035     768     642     723     723    1319    1049
1256    1256     147     105     126     270
0.92        1.69    1.34    0.92    0.92    1.65    1.34    0.92    0.92    1.60    1.28    0.92    0.92    1.69
1.65    0.92    1.28    1.28    1.37    1.42
```

```
0.000000E+00    5.000000E-01          7        1000.00       5.000000
0.000000E+00       0.500000       7       1000.00       5.000000       0.000000       15.600000
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: WINNETKA AVE AND ROSCOE BLVD
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S	Z0= 100. CM	ALT= 0.0 (M)
BRG= WORST CASE	VD= 0.0 CM/S	
CLAS= 7 (G)	VS= 0.0 CM/S	
MIXH= 1000. M	AMB= 0.0 PPM	
SIGTH= 5. DEGREES	TEMP= 0.5 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1301	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	1158	1.7	0.0	33.0
C. ND	8	0	8	500	AG	1430	1.6	0.0	33.0
D. NE	8	500	8	1500	AG	1430	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	1353	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	1214	1.7	0.0	33.0
G. SD	-8	0	-8	-500	AG	1356	1.6	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	1356	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	1324	0.9	0.0	33.0
J. WA	500	8	0	8	AG	1163	1.7	0.0	33.0
K. WD	0	8	-500	8	AG	1212	1.5	0.0	33.0
L. WE	-500	8	-1500	8	AG	1212	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	1390	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	1184	1.7	0.0	33.0
O. ED	0	-8	500	-8	AG	1370	1.5	0.0	33.0
P. EE	500	-8	1500	-8	AG	1370	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	143	1.3	0.0	33.0
R. SL	0	0	-8	500	AG	139	1.3	0.0	33.0
S. WL	0	0	500	8	AG	161	1.3	0.0	33.0
T. EL	0	0	-500	-8	AG	206	1.3	0.0	33.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: WINNETKA AVE AND ROSCOE BLVD NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

3. SW3	-25	-25	6.0
4. NW3	-25	25	6.0
5. NE7	38	38	6.0
6. SE7	38	-38	6.0
7. SW7	-38	-38	6.0
8. NW7	-38	38	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	185.	0.9	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.0
2. SE3	355.	0.9	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0
3. SW3	85.	0.9	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
4. NW3	95.	0.9	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
5. NE7	263.	0.6	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
6. SE7	353.	0.6	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
7. SW7	83.	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
8. NW7	97.	0.6	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: WINNETKA AVE AND ROSCOE BLVD NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2. SE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3. SW3	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
4. NW3	0.0	0.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
5. NE7	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6. SE7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7. SW7	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
8. NW7	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB:   WINNETKA AVE AND PARTHENIA ST
              RUN:                    (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
        U=   0.5 M/S             Z0= 100. CM            ALT= 0.0 (M)
      BRG= WORST CASE            VD=  0.0 CM/S
     CLAS=     7 (G)             VS=  0.0 CM/S
     MIXH= 1000. M              AMB=  0.0 PPM
    SIGTH=    5. DEGREES       TEMP=  0.5 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1430	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	1296	1.7	0.0	33.0
C. ND	8	0	8	500	AG	1451	1.4	0.0	33.0
D. NE	8	500	8	1500	AG	1451	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	1274	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	1135	1.7	0.0	33.0
G. SD	-8	0	-8	-500	AG	1279	1.4	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	1279	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	1360	0.9	0.0	33.0
J. WA	500	8	0	8	AG	1210	1.7	0.0	33.0
K. WD	0	8	-500	8	AG	1244	1.6	0.0	33.0
L. WE	-500	8	-1500	8	AG	1244	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	1052	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	931	1.7	0.0	33.0
O. ED	0	-8	500	-8	AG	1142	1.6	0.0	33.0
P. EE	500	-8	1500	-8	AG	1142	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	134	1.3	0.0	33.0
R. SL	0	0	-8	500	AG	139	1.3	0.0	33.0
S. WL	0	0	500	8	AG	150	1.3	0.0	33.0
T. EL	0	0	-500	-8	AG	121	1.3	0.0	33.0

(LINK COORDINATES (FT): X1, Y1, X2, Y2)

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB:   WINNETKA AVE AND PARTHENIA ST   NP
              RUN:                    (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

```
  3. SW3      *    -25    -25   6.0
  4. NW3      *    -25     25   6.0
  5. NE7      *     38     38   6.0
  6. SE7      *     38    -38   6.0
  7. SW7      *    -38    -38   6.0
  8. NW7      *    -38     38   6.0


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

              *       * PRED  *                CONC/LINK
              *  BRG  * CONC  *                  (PPM)
   RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. NE3      *  185. *   0.9 *  0.0  0.4  0.1  0.0  0.0  0.0  0.2  0.0
  2. SE3      *  355. *   0.9 *  0.0  0.1  0.4  0.0  0.0  0.2  0.0  0.0
  3. SW3      *   85. *   0.9 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  4. NW3      *   95. *   0.9 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
  5. NE7      *  187. *   0.6 *  0.0  0.2  0.0  0.0  0.0  0.0  0.1  0.0
  6. SE7      *  353. *   0.6 *  0.0  0.0  0.2  0.0  0.0  0.1  0.0  0.0
  7. SW7      *   83. *   0.6 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  8. NW7      *   97. *   0.6 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
```

FF

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   3

               JOB:   WINNETKA AVE AND PARTHENIA ST   NP
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE)     (CONT.)

              *                           CONC/LINK
              *                             (PPM)
   RECEPTOR   *   I    J    K    L    M    N    O    P    Q    R    S    T
  ------------*------------------------------------------------------------
  1. NE3      *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0
  2. SE3      *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0
  3. SW3      *  0.0  0.2  0.0  0.0  0.0  0.0  0.3  0.0  0.0  0.0  0.0  0.0
  4. NW3      *  0.0  0.4  0.0  0.0  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0
  5. NE7      *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0
  6. SE7      *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0
  7. SW7      *  0.0  0.1  0.0  0.0  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0
  8. NW7      *  0.0  0.2  0.0  0.0  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0
```

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: WINNETKA AVE AND NORDHOFF ST
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S	Z0= 100. CM	ALT= 0.0 (M)
BRG= WORST CASE	VD= 0.0 CM/S	
CLAS= 7 (G)	VS= 0.0 CM/S	
MIXH= 1000. M	AMB= 0.0 PPM	
SIGTH= 5. DEGREES	TEMP= 0.5 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1275	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	1022	1.7	0.0	33.0
C. ND	8	0	8	500	AG	1092	1.3	0.0	33.0
D. NE	8	500	8	1500	AG	1092	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	1327	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	1268	1.7	0.0	33.0
G. SD	-8	0	-8	-500	AG	1215	1.3	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	1215	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	1148	0.9	0.0	33.0
J. WA	500	8	0	8	AG	1030	1.7	0.0	33.0
K. WD	0	8	-500	8	AG	1465	1.6	0.0	33.0
L. WE	-500	8	-1500	8	AG	1465	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	725	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	612	1.6	0.0	33.0
O. ED	0	-8	500	-8	AG	703	1.3	0.0	33.0
P. EE	500	-8	1500	-8	AG	703	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	253	1.3	0.0	33.0
R. SL	0	0	-8	500	AG	59	1.3	0.0	33.0
S. WL	0	0	500	8	AG	118	1.4	0.0	33.0
T. EL	0	0	-500	-8	AG	113	1.4	0.0	33.0

LINK COORDINATES (FT): X1, Y1, X2, Y2

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: WINNETKA AVE AND NORDHOFF ST NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

COORDINATES (FT): X, Y, Z

```
  3. SW3      *    -25    -25   6.0
  4. NW3      *    -25     25   6.0
  5. NE7      *     38     38   6.0
  6. SE7      *     38    -38   6.0
  7. SW7      *    -38    -38   6.0
  8. NW7      *    -38     38   6.0


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

              *       * PRED  *                CONC/LINK
              *  BRG  * CONC  *                  (PPM)
   RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. NE3      *  265. *   0.8 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
  2. SE3      *  275. *   0.7 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  3. SW3      *    5. *   0.8 *  0.0  0.0  0.1  0.0  0.0  0.4  0.0  0.0
  4. NW3      *  175. *   0.8 *  0.0  0.2  0.0  0.0  0.0  0.1  0.3  0.0
  5. NE7      *  263. *   0.5 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
  6. SE7      *  277. *   0.5 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  7. SW7      *    6. *   0.5 *  0.0  0.0  0.1  0.0  0.0  0.2  0.0  0.0
  8. NW7      *  173. *   0.5 *  0.0  0.1  0.0  0.0  0.0  0.0  0.2  0.0
```

FF

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   3

               JOB:   WINNETKA AVE AND NORDHOFF ST   NP
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE)     (CONT.)

              *                          CONC/LINK
              *                            (PPM)
   RECEPTOR   *   I    J    K    L    M    N    O    P    Q    R    S    T
  ------------*------------------------------------------------------------
  1. NE3      *  0.0  0.0  0.4  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  2. SE3      *  0.0  0.0  0.2  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0  0.0
  3. SW3      *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  4. NW3      *  0.0  0.0  0.2  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  5. NE7      *  0.0  0.0  0.2  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  6. SE7      *  0.0  0.0  0.2  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  7. SW7      *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  8. NW7      *  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
```

FF

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB:   WINNETKA AND ROSCOE
              RUN:                    (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide


  I.  SITE VARIABLES

        U=   0.5 M/S             Z0= 100. CM            ALT= 0.0 (M)
      BRG= WORST CASE            VD=  0.0 CM/S
     CLAS=     7 (G)             VS=  0.0 CM/S
     MIXH= 1000. M              AMB=  0.0 PPM
    SIGTH=    5. DEGREES       TEMP=  0.5 DEGREE (C)


 II.  LINK VARIABLES

     LINK      *  LINK COORDINATES (FT)  *              EF     H     W
   DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (FT)  (FT)
----------------*-------------------------*----------------------------
 A. NF          *     8 -1500     8  -500 *  AG   1328   0.9    0.0  33.0
 B. NA          *     8  -500     8     0 *  AG   1163   1.7    0.0  33.0
 C. ND          *     8     0     8   500 *  AG   1301   1.5    0.0  33.0
 D. NE          *     8   500     8  1500 *  AG   1301   0.9    0.0  33.0
 E. SF          *    -8  1500    -8   500 *  AG   1444   0.9    0.0  33.0
 F. SA          *    -8   500    -8     0 *  AG   1289   1.7    0.0  33.0
 G. SD          *    -8     0    -8  -500 *  AG   1476   1.5    0.0  33.0
 H. SE          *    -8  -500    -8 -1500 *  AG   1476   0.9    0.0  33.0
 I. WF          *  1500     8   500     8 *  AG   1196   0.9    0.0  33.0
 J. WA          *   500     8     0     8 *  AG   1066   1.7    0.0  33.0
 K. WD          *     0     8  -500     8 *  AG   1226   1.5    0.0  33.0
 L. WE          *  -500     8 -1500     8 *  AG   1226   0.9    0.0  33.0
 M. EF          * -1500    -8  -500    -8 *  AG   1581   0.9    0.0  33.0
 N. EA          *  -500    -8     0    -8 *  AG   1400   1.7    0.0  33.0
 O. ED          *     0    -8   500    -8 *  AG   1546   1.5    0.0  33.0
 P. EE          *   500    -8  1500    -8 *  AG   1546   0.9    0.0  33.0
 Q. NL          *     0     0     8  -500 *  AG    165   1.3    0.0  33.0
 R. SL          *     0     0    -8   500 *  AG    155   1.3    0.0  33.0
 S. WL          *     0     0   500     8 *  AG    130   1.3    0.0  33.0
 T. EL          *     0     0  -500    -8 *  AG    181   1.3    0.0  33.0


          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB:   WINNETKA AND ROSCOE   NP
              RUN:                    (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (FT)
  RECEPTOR  *    X      Y      Z
------------*---------------------
 1. NE3     *     25     25   6.0
 2. SE3     *     25    -25   6.0
```

```
  3. SW3      *    -25    -25   6.0
  4. NW3      *    -25     25   6.0
  5. NE7      *     38     38   6.0
  6. SE7      *     38    -38   6.0
  7. SW7      *    -38    -38   6.0
  8. NW7      *    -38     38   6.0


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 ------------*-------*-------*----------------------------------------
  1. NE3     *  265. *   0.9 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
  2. SE3     *  275. *   1.0 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  3. SW3     *   85. *   1.0 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  4. NW3     *  175. *   1.0 *  0.0  0.2  0.0  0.0  0.0  0.1  0.4  0.0
  5. NE7     *  263. *   0.6 *  0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0
  6. SE7     *  277. *   0.6 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  7. SW7     *   83. *   0.6 *  0.0  0.1  0.0  0.0  0.0  0.0  0.1  0.0
  8. NW7     *  173. *   0.6 *  0.0  0.1  0.0  0.0  0.0  0.0  0.2  0.0
```

FF

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   3

              JOB:   WINNETKA AND ROSCOE   NP
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE)     (CONT.)

             *                          CONC/LINK
             *                            (PPM)
   RECEPTOR  *  I    J    K    L    M    N    O    P    Q    R    S    T
  -----------*------------------------------------------------------------
  1. NE3     * 0.0  0.0  0.3  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0  0.0
  2. SE3     * 0.0  0.0  0.2  0.0  0.0  0.4  0.1  0.0  0.0  0.0  0.0  0.0
  3. SW3     * 0.0  0.2  0.0  0.0  0.0  0.1  0.4  0.0  0.0  0.0  0.0  0.0
  4. NW3     * 0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
  5. NE7     * 0.0  0.0  0.2  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0  0.0
  6. SE7     * 0.0  0.0  0.1  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0  0.0
  7. SW7     * 0.0  0.1  0.0  0.0  0.0  0.0  0.2  0.0  0.0  0.0  0.0  0.0
  8. NW7     * 0.0  0.0  0.1  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0
```

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: MASON AND PLUMMER
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
     U=   0.5 M/S             Z0= 100. CM            ALT= 0.0 (M)
   BRG= WORST CASE            VD=  0.0 CM/S
  CLAS=     7 (G)             VS=  0.0 CM/S
  MIXH= 1000. M              AMB=  0.0 PPM
 SIGTH=    5. DEGREES       TEMP=  0.5 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1569	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	1505	1.6	0.0	33.0
C. ND	8	0	8	500	AG	1764	1.2	0.0	33.0
D. NE	8	500	8	1500	AG	1764	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	947	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	815	1.4	0.0	33.0
G. SD	-8	0	-8	-500	AG	872	1.1	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	872	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	620	0.9	0.0	33.0
J. WA	500	8	0	8	AG	551	1.7	0.0	33.0
K. WD	0	8	-500	8	AG	508	1.2	0.0	33.0
L. WE	-500	8	-1500	8	AG	508	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	801	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	602	1.7	0.0	33.0
O. ED	0	-8	500	-8	AG	793	1.6	0.0	33.0
P. EE	500	-8	1500	-8	AG	793	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	64	1.2	0.0	33.0
R. SL	0	0	-8	500	AG	132	1.2	0.0	33.0
S. WL	0	0	500	8	AG	69	1.5	0.0	33.0
T. EL	0	0	-500	-8	AG	199	1.5	0.0	33.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: MASON AND PLUMMER NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

3. SW3	*	-25	-25	6.0
4. NW3	*	-25	25	6.0
5. NE7	*	38	38	6.0
6. SE7	*	38	-38	6.0
7. SW7	*	-38	-38	6.0
8. NW7	*	-38	38	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	184.	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0
2. SE3	355.	0.7	0.0	0.1	0.3	0.0	0.0	0.1	0.0	0.0
3. SW3	85.	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
4. NW3	175.	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0
5. NE7	186.	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0
6. SE7	354.	0.5	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
7. SW7	83.	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8. NW7	173.	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: MASON AND PLUMMER NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2. SE3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3. SW3	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
4. NW3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5. NE7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
6. SE7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7. SW7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
8. NW7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB:   CORBIN AVE AND PLUMMERS ST
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


   I.  SITE VARIABLES

         U=   0.5 M/S             Z0= 100. CM            ALT= 0.0 (M)
       BRG= WORST CASE            VD=  0.0 CM/S
      CLAS=     7 (G)             VS=  0.0 CM/S
      MIXH= 1000. M              AMB=  0.0 PPM
     SIGTH=    5. DEGREES       TEMP=  0.5 DEGREE (C)


  II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (FT)  *              EF     H     W
   DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (FT)  (FT)
 ---------------*-------------------------*------------------------------
 A. NF          *     8 -1500     8  -500 *  AG    924   1.7    0.0  33.0
 B. NA          *     8  -500     8     0 *  AG    857   3.3    0.0  33.0
 C. ND          *     8     0     8   500 *  AG    752   2.0    0.0  33.0
 D. NE          *     8   500     8  1500 *  AG    752   1.7    0.0  33.0
 E. SF          *    -8  1500    -8   500 *  AG   1642   1.7    0.0  33.0
 F. SA          *    -8   500    -8     0 *  AG   1551   3.5    0.0  33.0
 G. SD          *    -8     0    -8  -500 *  AG   1620   2.4    0.0  33.0
 H. SE          *    -8  -500    -8 -1500 *  AG   1620   1.7    0.0  33.0
 I. WF          *  1500     8   500     8 *  AG   1092   1.7    0.0  33.0
 J. WA          *   500     8     0     8 *  AG    856   3.7    0.0  33.0
 K. WD          *     0     8  -500     8 *  AG   1123   3.7    0.0  33.0
 L. WE          *  -500     8 -1500     8 *  AG   1123   1.7    0.0  33.0
 M. EF          * -1500    -8  -500    -8 *  AG    488   1.7    0.0  33.0
 N. EA          *  -500    -8     0    -8 *  AG    460   3.4    0.0  33.0
 O. ED          *     0    -8   500    -8 *  AG    651   3.0    0.0  33.0
 P. EE          *   500    -8  1500    -8 *  AG    651   1.7    0.0  33.0
 Q. NL          *     0     0     8  -500 *  AG     67   2.4    0.0  33.0
 R. SL          *     0     0    -8   500 *  AG     91   2.4    0.0  33.0
 S. WL          *     0     0   500     8 *  AG    236   2.9    0.0  33.0
 T. EL          *     0     0  -500    -8 *  AG     28   2.9    0.0  33.0


FF

           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   2

               JOB:   CORBIN AVE AND PLUMMERS ST   NP
               RUN:                  (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


 III.  RECEPTOR LOCATIONS

              *    COORDINATES (FT)
   RECEPTOR   *    X      Y      Z
 -------------*---------------------
 1. NE3       *     25     25   6.0
 2. SE3       *     25    -25   6.0
```

3. SW3	*	-25	-25	6.0
4. NW3	*	-25	25	6.0
5. NE7	*	38	38	6.0
6. SE7	*	38	-38	6.0
7. SW7	*	-38	-38	6.0
8. NW7	*	-38	38	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	265.	1.4	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
2. SE3	354.	1.3	0.0	0.1	0.3	0.0	0.1	0.5	0.0	0.0
3. SW3	4.	1.6	0.0	0.0	0.1	0.1	0.1	0.9	0.1	0.0
4. NW3	175.	1.5	0.1	0.3	0.0	0.0	0.0	0.1	0.6	0.1
5. NE7	263.	0.9	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
6. SE7	352.	0.9	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0
7. SW7	6.	1.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
8. NW7	97.	1.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: CORBIN AVE AND PLUMMERS ST NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	* CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	0.0	0.1	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
2. SE3	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3. SW3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
4. NW3	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5. NE7	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6. SE7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7. SW7	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8. NW7	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0

FF

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   1

              JOB:   CORBIN AVE AND PLUMMER ST
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
        U=   0.5 M/S             Z0= 100. CM            ALT= 0.0 (M)
      BRG= WORST CASE            VD=  0.0 CM/S
     CLAS=     7 (G)             VS=  0.0 CM/S
     MIXH= 1000. M              AMB=  0.0 PPM
    SIGTH=    5. DEGREES       TEMP=  0.5 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1072	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	995	1.6	0.0	33.0
C. ND	8	0	8	500	AG	880	1.1	0.0	33.0
D. NE	8	500	8	1500	AG	880	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	1896	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	1796	1.6	0.0	33.0
G. SD	-8	0	-8	-500	AG	1855	1.2	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	1855	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	1225	0.9	0.0	33.0
J. WA	500	8	0	8	AG	945	1.7	0.0	33.0
K. WD	0	8	-500	8	AG	1285	1.7	0.0	33.0
L. WE	-500	8	-1500	8	AG	1285	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	581	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	550	1.7	0.0	33.0
O. ED	0	-8	500	-8	AG	754	1.6	0.0	33.0
P. EE	500	-8	1500	-8	AG	754	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	77	1.3	0.0	33.0
R. SL	0	0	-8	500	AG	100	1.3	0.0	33.0
S. WL	0	0	500	8	AG	280	1.5	0.0	33.0
T. EL	0	0	-500	-8	AG	31	1.4	0.0	33.0

LINK COORDINATES (FT): X1, Y1, X2, Y2

FF

```
          CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                   JUNE 1989 VERSION
                   PAGE   2

              JOB:   CORBIN AVE AND PLUMMER ST   NP
              RUN:                  (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

COORDINATES (FT): X, Y, Z

3. SW3	*	-25	-25	6.0
4. NW3	*	-25	25	6.0
5. NE7	*	38	38	6.0
6. SE7	*	38	-38	6.0
7. SW7	*	-38	-38	6.0
8. NW7	*	-38	38	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	265.	0.8	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
2. SE3	354.	0.7	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0
3. SW3	5.	0.9	0.0	0.0	0.1	0.0	0.0	0.5	0.1	0.0
4. NW3	175.	0.9	0.0	0.1	0.0	0.0	0.0	0.1	0.4	0.0
5. NE7	186.	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0
6. SE7	353.	0.5	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
7. SW7	6.	0.5	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
8. NW7	173.	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: CORBIN AVE AND PLUMMER ST NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2. SE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3. SW3	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
4. NW3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. NE7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
6. SE7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7. SW7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8. NW7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: CORBIN AND PLUMMER
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
      U=   0.5 M/S              Z0= 100. CM            ALT= 0.0 (M)
    BRG= WORST CASE             VD=  0.0 CM/S
   CLAS=     7 (G)              VS=  0.0 CM/S
   MIXH= 1000. M               AMB=  0.0 PPM
  SIGTH=    5. DEGREES        TEMP=  0.5 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. NF	8	-1500	8	-500	AG	1690	0.9	0.0	33.0
B. NA	8	-500	8	0	AG	1543	1.7	0.0	33.0
C. ND	8	0	8	500	AG	1719	1.3	0.0	33.0
D. NE	8	500	8	1500	AG	1719	0.9	0.0	33.0
E. SF	-8	1500	-8	500	AG	956	0.9	0.0	33.0
F. SA	-8	500	-8	0	AG	851	1.6	0.0	33.0
G. SD	-8	0	-8	-500	AG	1035	1.3	0.0	33.0
H. SE	-8	-500	-8	-1500	AG	1035	0.9	0.0	33.0
I. WF	1500	8	500	8	AG	768	0.9	0.0	33.0
J. WA	500	8	0	8	AG	642	1.6	0.0	33.0
K. WD	0	8	-500	8	AG	723	1.3	0.0	33.0
L. WE	-500	8	-1500	8	AG	723	0.9	0.0	33.0
M. EF	-1500	-8	-500	-8	AG	1319	0.9	0.0	33.0
N. EA	-500	-8	0	-8	AG	1049	1.7	0.0	33.0
O. ED	0	-8	500	-8	AG	1256	1.6	0.0	33.0
P. EE	500	-8	1500	-8	AG	1256	0.9	0.0	33.0
Q. NL	0	0	8	-500	AG	147	1.3	0.0	33.0
R. SL	0	0	-8	500	AG	105	1.3	0.0	33.0
S. WL	0	0	500	8	AG	126	1.4	0.0	33.0
T. EL	0	0	-500	-8	AG	270	1.4	0.0	33.0

FF

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: CORBIN AND PLUMMER NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	X (FT)	Y (FT)	Z (FT)
1. NE3	25	25	6.0
2. SE3	25	-25	6.0

3. SW3	-25	-25	6.0
4. NW3	-25	25	6.0
5. NE7	38	38	6.0
6. SE7	38	-38	6.0
7. SW7	-38	-38	6.0
8. NW7	-38	38	6.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE3	185.	0.9	0.0	0.4	0.1	0.0	0.0	0.0	0.1	0.0
2. SE3	355.	0.9	0.0	0.1	0.4	0.0	0.0	0.1	0.0	0.0
3. SW3	85.	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
4. NW3	175.	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.3	0.0
5. NE7	187.	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0
6. SE7	353.	0.5	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
7. SW7	83.	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0
8. NW7	173.	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: CORBIN AND PLUMMER NP
RUN: (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2. SE3	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3. SW3	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
4. NW3	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5. NE7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
6. SE7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7. SW7	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
8. NW7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

APPENDIX B

Noise

NOISE DATA AND CALCULATIONS

MGA Campus Project - Construction Noise

Reference Noise Distance	50
Reference Noise Level	89

Sensitive Receptor	Distance (feet)	Attenuation Factors	Maximum Construction Noise Level (dBA)	Existing Ambient (dBA, Leq)	New Ambient (dBA, Leq)	Increase
Pacific Theaters - 9201 Winnetka Ave.	1,000	10	53.0	59.6	60.5	0.9
Single-Family Residences along Plummer St.	1,300	10	50.7	59.6	60.1	0.5
Single-Family Residences along Nordoff St.	1,500	10	49.5	62.4	62.6	0.2
The “Village” Mixed-Use Development	1,900	10	47.4	59.6	59.9	0.3

MGA Campus Project - Mobile Noise

Existing

ROAD SEGMENT	from:	to:	TOT. # VEH.	D1	D2	Eq. Dis.	Auto %	Auto	MT %	MT	HT %	HT	Auto	k/h	MT	k/h	HT	k/h	50 ft ROW Leq (dBA)	50 ft ROW CNEL (dBA)
Winnetka Ave	Nordhoff St	Parthenia St	1860	15	60	30	91	1692	6	112	3	55.8	35	56	35	56	35	56	68.8	68.8
Winnetka Ave	Plummer St	Lassen St	1375	18	60	33	91	1251	6	82.5	3	41.2	35	56	35	56	35	56	67.3	67.3
Plummer St	Winnetka Ave	Mason Ave	1198	10	50	22	91	1090	6	71.9	3	35.9	35	56	35	56	35	56	67.3	67.3
Nordhoff St	Winnetka Ave	Corbin Ave	1139	7	70	22	91	1036	6	68.3	3	34.2	35	56	35	56	35	56	67.1	67.1
Prarie St	Winnetka Ave	Corbin Ave	444	8	34	16	91	404	6	26.6	3	13.3	35	56	35	56	35	56	63.4	63.4

Existing With Project

ROAD SEGMENT	from:	to:	TOT. # VEH.	D1	D2	Eq. Dis.	Auto %	Auto	MT %	MT	HT %	HT	Auto	k/h	MT	k/h	HT	k/h	50 ft ROW Leq (dBA)	50 ft ROW CNEL (dBA)
Winnetka Ave	Nordhoff St	Parthenia St	2257	15	60	30	91	2053	6	135	3	67.7	35	56	35	56	35	56	69.6	69.6
Winnetka Ave	Plummer St	Lassen St	1590	18	60	33	91	1446	6	95.4	3	47.7	35	56	35	56	35	56	67.9	67.9
Plummer St	Winnetka Ave	Mason Ave	1241	10	50	22	91	1129	6	74.4	3	37.2	35	56	35	56	35	56	67.5	67.4
Nordhoff St	Winnetka Ave	Corbin Ave	1199	7	70	22	91	1091	6	71.9	3	36	35	56	35	56	35	56	67.3	67.3
Prarie St	Winnetka Ave	Corbin Ave	700	8	34	16	91	637	6	42	3	21	35	56	35	56	35	56	65.3	65.3

Future Without Project

ROAD SEGMENT	from:	to:	TOT. # VEH.	D1	D2	Eq. Dis.	Auto %	Auto	MT %	MT	HT %	HT	Auto	k/h	MT	k/h	HT	k/h	50 ft ROW Leq (dBA)	50 ft ROW CNEL (dBA)
Winnetka Ave	Nordhoff St	Parthenia St	2331	15	60	30	91	2121	6	140	3	69.9	35	56	35	56	35	56	69.8	69.7
Winnetka Ave	Plummer St	Lassen St	1530	18	60	33	91	1392	6	91.8	3	45.9	35	56	35	56	35	56	67.8	67.8
Plummer St	Winnetka Ave	Mason Ave	1378	10	50	22	91	1254	6	82.7	3	41.3	35	56	35	56	35	56	67.9	67.9
Nordhoff St	Winnetka Ave	Corbin Ave	1945	7	70	22	91	1769	6	117	3	58.3	35	56	35	56	35	56	69.4	69.4
Prarie St	Winnetka Ave	Corbin Ave	647	8	34	16	91	588	6	38.8	3	19.4	35	56	35	56	35	56	65.0	65.0

Future With Project

ROAD SEGMENT	from:	to:	TOT. # VEH.	D1	D2	Eq. Dis.	Auto %	Auto	MT %	MT	HT %	HT	Auto	k/h	MT	k/h	HT	k/h	50 ft ROW Leq (dBA)	50 ft ROW CNEL (dBA)
Winnetka Ave	Nordhoff St	Parthenia St	2503	15	60	30	91	2277	6	150	3	75.1	35	56	35	56	35	56	70.1	70.1
Winnetka Ave	Plummer St	Lassen St	1745	18	60	33	91	1587	6	105	3	52.3	35	56	35	56	35	56	68.3	68.3
Plummer St	Winnetka Ave	Mason Ave	1401	10	50	22	91	1275	6	84.1	3	42	35	56	35	56	35	56	68.0	68.0
Nordhoff St	Winnetka Ave	Corbin Ave	1980	7	70	22	91	1801	6	119	3	59.4	35	56	35	56	35	56	69.5	69.5
Prarie St	Winnetka Ave	Corbin Ave	828	8	34	16	91	753	6	49.7	3	24.8	35	56	35	56	35	56	66.1	66.1

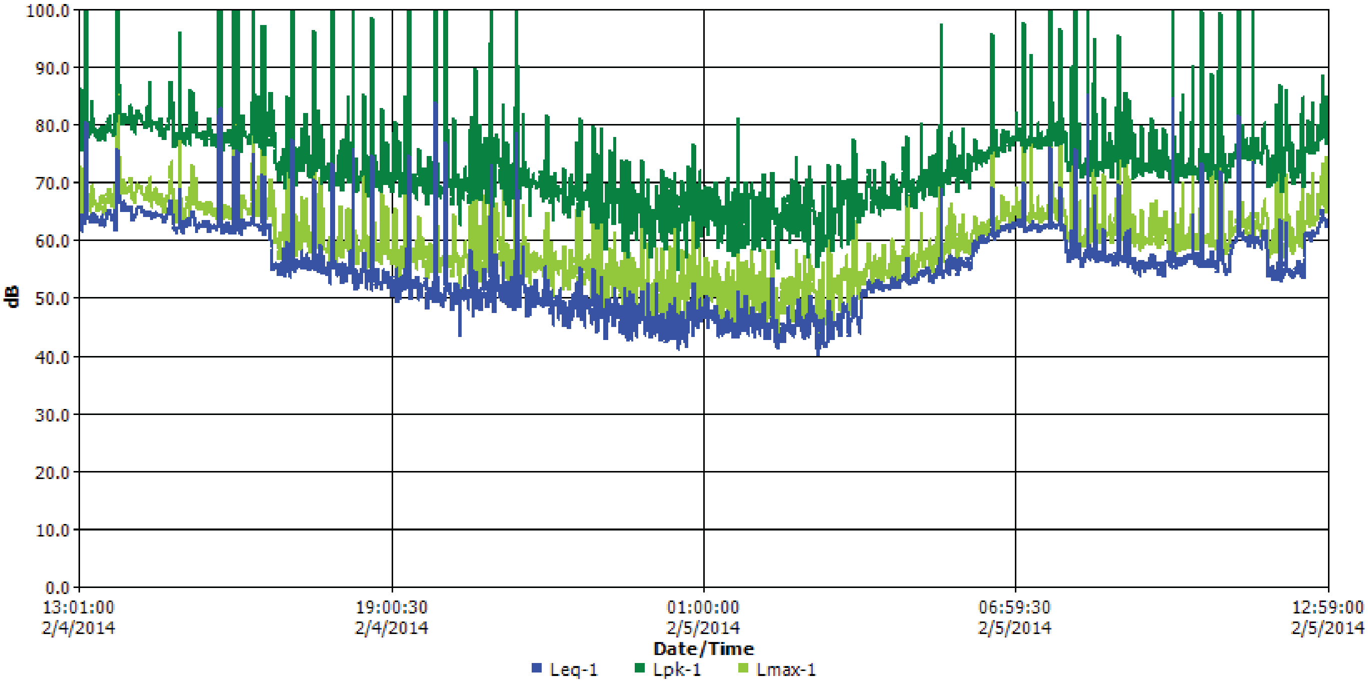
Study Report

3/25/2014

General Data Panel

Description	Meter	Value	Description	Meter	Value
Dose	1	2 %	Lpk	1	111.9 dB
Lmax	1	99.9 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	OFF
Exchange Rate	1	3 dB	Int Threshold	1	80 dB
Log Rate	1	60 s	Exchange Rate	2	5 dB
Int Threshold	2	80 dB	Weighting	2	C
Response	2	FAST			

Logged Data Chart



Logged Data Table

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 1:01:00 PM	62.1	77.3	64.4	59.8
2/4/2014 1:02:00 PM	61.8	80.0	64.9	59.3
2/4/2014 1:03:00 PM	64.3	86.2	72.8	59.1
2/4/2014 1:04:00 PM	61.4	75.6	63.8	59.9
2/4/2014 1:05:00 PM	62.9	78.5	64.9	60.7
2/4/2014 1:06:00 PM	63.8	79.4	66.4	61.9
2/4/2014 1:07:00 PM	62.7	78.1	65.4	61.5
2/4/2014 1:08:00 PM	63.6	78.8	66.2	62.0
2/4/2014 1:09:00 PM	80.5	106.7	95.7	63.2
2/4/2014 1:10:00 PM	64.7	83.0	71.0	62.2
2/4/2014 1:11:00 PM	63.7	80.6	67.9	61.7
2/4/2014 1:12:00 PM	63.5	77.6	65.8	61.8
2/4/2014 1:13:00 PM	64.1	79.3	67.5	61.5
2/4/2014 1:14:00 PM	63.3	78.2	64.8	61.9
2/4/2014 1:15:00 PM	63.1	78.6	65.8	61.8
2/4/2014 1:16:00 PM	63.6	84.0	69.6	61.5
2/4/2014 1:17:00 PM	64.3	79.8	66.6	62.2
2/4/2014 1:18:00 PM	64.8	80.9	68.9	62.1
2/4/2014 1:19:00 PM	63.4	79.3	67.0	61.4
2/4/2014 1:20:00 PM	63.1	77.7	66.1	61.4
2/4/2014 1:21:00 PM	64.2	79.0	66.4	62.3
2/4/2014 1:22:00 PM	64.0	77.9	65.7	62.6
2/4/2014 1:23:00 PM	63.6	77.7	65.0	61.8
2/4/2014 1:24:00 PM	63.1	77.2	65.3	61.6
2/4/2014 1:25:00 PM	62.5	77.7	65.8	60.7
2/4/2014 1:26:00 PM	63.3	79.3	67.4	61.6
2/4/2014 1:27:00 PM	64.3	78.7	66.4	62.4
2/4/2014 1:28:00 PM	63.6	79.7	67.6	61.6

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 1:29:00 PM	62.3	78.5	66.0	60.7
2/4/2014 1:30:00 PM	62.6	77.3	64.3	61.1
2/4/2014 1:31:00 PM	62.6	77.1	64.8	60.5
2/4/2014 1:32:00 PM	63.6	78.4	66.3	61.6
2/4/2014 1:33:00 PM	64.5	80.2	67.4	62.3
2/4/2014 1:34:00 PM	64.8	80.5	68.0	62.5
2/4/2014 1:35:00 PM	64.9	79.9	67.6	63.1
2/4/2014 1:36:00 PM	65.2	81.0	68.8	63.0
2/4/2014 1:37:00 PM	64.9	81.6	68.4	63.1
2/4/2014 1:38:00 PM	64.3	78.9	66.4	62.1
2/4/2014 1:39:00 PM	64.2	78.6	65.9	62.4
2/4/2014 1:40:00 PM	63.4	79.0	68.0	61.5
2/4/2014 1:41:00 PM	63.6	78.1	65.6	61.7
2/4/2014 1:42:00 PM	64.4	78.2	66.0	62.6
2/4/2014 1:43:00 PM	65.1	82.1	70.0	59.3
2/4/2014 1:44:00 PM	61.5	80.7	67.5	59.9
2/4/2014 1:45:00 PM	63.4	80.4	68.1	60.4
2/4/2014 1:46:00 PM	75.8	101.2	90.0	63.8
2/4/2014 1:47:00 PM	67.6	86.8	74.3	63.4
2/4/2014 1:48:00 PM	66.2	85.3	72.5	62.9
2/4/2014 1:49:00 PM	66.2	81.9	70.6	63.7
2/4/2014 1:50:00 PM	65.9	81.8	69.6	63.8
2/4/2014 1:51:00 PM	65.0	80.0	68.1	62.6
2/4/2014 1:52:00 PM	67.0	81.6	70.4	64.1
2/4/2014 1:53:00 PM	66.4	81.5	70.0	63.8
2/4/2014 1:54:00 PM	65.6	81.9	69.5	62.5
2/4/2014 1:55:00 PM	65.0	81.3	69.2	61.8
2/4/2014 1:56:00 PM	64.9	80.8	68.1	62.1
2/4/2014 1:57:00 PM	64.9	80.2	68.2	61.9
2/4/2014 1:58:00 PM	65.3	81.2	68.7	62.3
2/4/2014 1:59:00 PM	65.7	80.4	68.3	62.4
2/4/2014 2:00:00 PM	65.1	83.6	69.8	61.9
2/4/2014 2:01:00 PM	65.8	83.0	70.8	62.1
2/4/2014 2:02:00 PM	65.1	81.7	68.8	62.5
2/4/2014 2:03:00 PM	63.4	79.2	67.1	61.2
2/4/2014 2:04:00 PM	63.8	79.8	68.4	60.8
2/4/2014 2:05:00 PM	64.1	81.7	66.9	61.5
2/4/2014 2:06:00 PM	63.8	78.3	66.4	60.7
2/4/2014 2:07:00 PM	64.4	80.2	68.2	61.2
2/4/2014 2:08:00 PM	65.2	81.3	69.9	62.3
2/4/2014 2:09:00 PM	65.4	82.3	69.6	62.8
2/4/2014 2:10:00 PM	65.6	80.9	68.7	62.9
2/4/2014 2:11:00 PM	65.5	81.3	69.3	62.7
2/4/2014 2:12:00 PM	65.7	81.5	68.9	62.7
2/4/2014 2:13:00 PM	65.6	81.7	69.5	62.3
2/4/2014 2:14:00 PM	64.7	80.6	68.1	61.9
2/4/2014 2:15:00 PM	65.3	80.3	68.1	62.1
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2/4/2014 2:21:00 PM	64.2	80.1	66.7	61.9
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2/4/2014 2:23:00 PM	64.9	87.3	71.0	62.3
2/4/2014 2:24:00 PM	64.2	79.8	67.3	61.8
2/4/2014 2:25:00 PM	63.7	78.9	65.6	61.6
2/4/2014 2:26:00 PM	64.2	80.5	68.4	61.6
2/4/2014 2:27:00 PM	64.7	80.6	67.6	62.2
2/4/2014 2:28:00 PM	63.9	79.8	67.0	61.4
2/4/2014 2:29:00 PM	65.0	80.5	69.1	62.6
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2/4/2014 2:37:00 PM	63.8	78.6	65.9	62.0
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2/4/2014 2:41:00 PM	63.7	79.4	67.1	61.1
2/4/2014 2:42:00 PM	64.6	79.9	67.8	61.8
2/4/2014 2:43:00 PM	64.5	79.0	66.7	61.6
2/4/2014 2:44:00 PM	64.8	80.3	68.0	62.8
2/4/2014 2:45:00 PM	65.6	81.0	68.0	63.9

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 2:46:00 PM	65.8	81.6	70.5	63.0
2/4/2014 2:47:00 PM	66.9	87.5	72.8	64.5
2/4/2014 2:48:00 PM	65.6	86.5	73.9	60.1
2/4/2014 2:49:00 PM	64.4	84.1	68.9	61.8
2/4/2014 2:50:00 PM	62.6	77.8	65.4	60.3
2/4/2014 2:51:00 PM	61.8	76.0	63.7	60.1
2/4/2014 2:52:00 PM	62.1	76.1	63.7	60.2
2/4/2014 2:53:00 PM	61.7	76.9	63.9	59.6
2/4/2014 2:54:00 PM	61.0	76.2	63.1	59.2
2/4/2014 2:55:00 PM	61.9	78.4	66.8	60.1
2/4/2014 2:56:00 PM	61.8	77.4	65.2	59.7
2/4/2014 2:57:00 PM	68.9	96.1	83.4	60.2
2/4/2014 2:58:00 PM	62.2	79.7	67.2	60.4
2/4/2014 2:59:00 PM	61.6	77.1	64.7	59.9
2/4/2014 3:00:00 PM	61.4	77.9	65.6	59.5
2/4/2014 3:01:00 PM	61.1	76.9	63.4	59.6
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2/4/2014 3:05:00 PM	62.8	77.9	66.6	61.1
2/4/2014 3:06:00 PM	63.7	79.3	67.4	61.7
2/4/2014 3:07:00 PM	63.6	78.4	66.6	60.8
2/4/2014 3:08:00 PM	63.5	78.3	67.1	61.3
2/4/2014 3:09:00 PM	62.5	76.2	63.8	61.3
2/4/2014 3:10:00 PM	63.8	85.9	69.1	61.6
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2/4/2014 3:15:00 PM	63.5	80.4	68.3	60.7
2/4/2014 3:16:00 PM	62.6	82.2	70.9	54.2
2/4/2014 3:17:00 PM	61.3	79.9	67.9	59.1
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2/4/2014 3:19:00 PM	62.1	77.6	65.1	59.3
2/4/2014 3:20:00 PM	62.7	78.4	66.5	59.6
2/4/2014 3:21:00 PM	62.7	77.7	65.5	59.7
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2/4/2014 3:29:00 PM	63.3	78.0	66.5	60.8
2/4/2014 3:30:00 PM	62.3	78.9	65.6	59.6
2/4/2014 3:31:00 PM	61.3	81.0	66.7	59.5
2/4/2014 3:32:00 PM	61.5	77.8	64.5	59.9
2/4/2014 3:33:00 PM	62.6	77.5	65.0	60.9
2/4/2014 3:34:00 PM	62.5	79.2	66.3	59.9
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2/4/2014 3:38:00 PM	62.6	77.8	65.4	60.4
2/4/2014 3:39:00 PM	62.4	78.1	65.0	60.6
2/4/2014 3:40:00 PM	61.5	75.8	63.2	59.9
2/4/2014 3:41:00 PM	62.1	77.0	65.2	60.2
2/4/2014 3:42:00 PM	62.6	78.4	67.1	60.5
2/4/2014 3:43:00 PM	81.6	111.9	99.7	60.1
2/4/2014 3:44:00 PM	82.9	110.2	99.6	61.1
2/4/2014 3:45:00 PM	62.6	77.2	64.9	60.8
2/4/2014 3:46:00 PM	61.0	75.5	63.7	58.4
2/4/2014 3:47:00 PM	61.7	76.8	64.5	59.0
2/4/2014 3:48:00 PM	62.5	78.6	65.5	59.5
2/4/2014 3:49:00 PM	62.8	78.2	66.0	60.2
2/4/2014 3:50:00 PM	61.4	76.8	63.8	59.0
2/4/2014 3:51:00 PM	62.8	78.8	64.9	60.9
2/4/2014 3:52:00 PM	63.1	77.9	65.9	61.3
2/4/2014 3:53:00 PM	62.8	77.4	65.4	60.9
2/4/2014 3:54:00 PM	62.4	79.0	65.5	60.3
2/4/2014 3:55:00 PM	61.8	76.5	64.3	59.6
2/4/2014 3:56:00 PM	61.2	76.2	63.6	59.4
2/4/2014 3:57:00 PM	61.3	76.5	63.5	59.6
2/4/2014 3:58:00 PM	62.0	76.6	64.5	59.6
2/4/2014 3:59:00 PM	74.5	103.2	89.4	59.9
2/4/2014 4:00:00 PM	61.1	75.8	63.2	59.6
2/4/2014 4:01:00 PM	61.1	75.9	63.1	59.3
2/4/2014 4:02:00 PM	61.5	76.6	64.2	59.9

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 4:03:00 PM	62.6	79.8	66.4	60.0
2/4/2014 4:04:00 PM	75.4	104.0	93.2	60.6
2/4/2014 4:05:00 PM	62.1	77.6	64.4	60.1
2/4/2014 4:06:00 PM	61.6	75.9	64.0	59.7
2/4/2014 4:07:00 PM	61.0	75.1	62.8	58.4
2/4/2014 4:08:00 PM	60.9	75.3	63.3	59.3
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2/4/2014 4:12:00 PM	63.0	78.2	65.2	60.6
2/4/2014 4:13:00 PM	62.7	78.0	65.5	60.6
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2/4/2014 4:43:00 PM	58.6	83.9	70.0	49.7
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2/4/2014 4:58:00 PM	53.7	68.9	57.5	50.4
2/4/2014 4:59:00 PM	55.1	72.5	60.0	50.3
2/4/2014 5:00:00 PM	54.8	72.0	58.9	49.4
2/4/2014 5:01:00 PM	59.7	85.0	72.5	48.3
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2/4/2014 5:04:00 PM	53.2	70.4	58.1	50.0
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2/4/2014 5:17:00 PM	58.2	79.3	67.4	51.5
2/4/2014 5:18:00 PM	55.0	71.8	59.8	51.0
2/4/2014 5:19:00 PM	56.9	74.0	63.3	48.8

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 5:20:00 PM	55.0	73.2	59.8	48.9
2/4/2014 5:21:00 PM	56.4	73.9	61.6	51.0
2/4/2014 5:22:00 PM	55.3	81.8	66.9	51.7
2/4/2014 5:23:00 PM	57.7	78.6	67.1	51.7
2/4/2014 5:24:00 PM	56.8	75.0	62.6	50.7
2/4/2014 5:25:00 PM	55.9	77.9	62.0	49.3
2/4/2014 5:26:00 PM	54.7	71.1	59.0	48.2
2/4/2014 5:27:00 PM	56.3	73.1	59.9	50.2
2/4/2014 5:28:00 PM	54.9	70.8	57.8	51.3
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2/4/2014 5:30:00 PM	55.5	71.3	59.4	47.9
2/4/2014 5:31:00 PM	56.5	74.3	60.7	50.4
2/4/2014 5:32:00 PM	70.4	96.3	85.1	53.8
2/4/2014 5:33:00 PM	61.4	78.9	71.3	51.6
2/4/2014 5:34:00 PM	54.6	72.8	59.7	49.4
2/4/2014 5:35:00 PM	55.2	71.8	58.6	52.0
2/4/2014 5:36:00 PM	55.0	72.3	59.3	48.9
2/4/2014 5:37:00 PM	57.7	82.5	67.9	50.0
2/4/2014 5:38:00 PM	54.3	75.0	61.5	50.3
2/4/2014 5:39:00 PM	59.2	80.0	70.9	50.9
2/4/2014 5:40:00 PM	54.2	69.7	58.0	51.4
2/4/2014 5:41:00 PM	57.1	77.3	65.5	50.5
2/4/2014 5:42:00 PM	57.0	75.5	65.3	53.2
2/4/2014 5:43:00 PM	55.2	70.7	58.4	51.0
2/4/2014 5:44:00 PM	54.2	70.3	58.6	50.3
2/4/2014 5:45:00 PM	54.9	72.6	58.2	48.5
2/4/2014 5:46:00 PM	54.0	70.4	57.7	48.8
2/4/2014 5:47:00 PM	54.5	72.0	58.4	49.9
2/4/2014 5:48:00 PM	55.1	70.2	57.7	51.5
2/4/2014 5:49:00 PM	56.0	73.3	59.6	50.3
2/4/2014 5:50:00 PM	52.1	68.6	55.7	48.5
2/4/2014 5:51:00 PM	55.1	72.8	60.6	48.3
2/4/2014 5:52:00 PM	68.2	102.0	89.0	51.6
2/4/2014 5:53:00 PM	73.3	101.3	89.8	51.3
2/4/2014 5:54:00 PM	58.4	79.2	68.2	51.0
2/4/2014 5:55:00 PM	56.5	71.7	59.5	50.6
2/4/2014 5:56:00 PM	54.8	71.1	59.2	50.9
2/4/2014 5:57:00 PM	55.3	70.7	59.8	50.6
2/4/2014 5:58:00 PM	53.7	70.1	55.9	50.7
2/4/2014 5:59:00 PM	53.8	69.3	57.4	49.3
2/4/2014 6:00:00 PM	53.9	69.5	57.1	49.7
2/4/2014 6:01:00 PM	55.9	74.6	60.4	48.0
2/4/2014 6:02:00 PM	54.3	75.7	65.8	49.0
2/4/2014 6:03:00 PM	56.2	77.3	62.5	49.1
2/4/2014 6:04:00 PM	52.4	68.6	56.8	48.8
2/4/2014 6:05:00 PM	54.8	71.8	58.1	49.0
2/4/2014 6:06:00 PM	55.8	71.7	59.1	49.6
2/4/2014 6:07:00 PM	55.2	77.4	59.8	51.2
2/4/2014 6:08:00 PM	52.9	70.8	58.6	48.2
2/4/2014 6:09:00 PM	55.4	71.5	58.6	49.3
2/4/2014 6:10:00 PM	54.7	79.6	65.2	50.4
2/4/2014 6:11:00 PM	55.3	85.0	65.4	50.2
2/4/2014 6:12:00 PM	54.1	70.0	58.0	45.3
2/4/2014 6:13:00 PM	58.4	76.8	65.2	45.2
2/4/2014 6:14:00 PM	55.0	71.1	58.8	50.3
2/4/2014 6:15:00 PM	55.8	75.0	63.5	49.3
2/4/2014 6:16:00 PM	54.8	74.3	64.1	46.0
2/4/2014 6:17:00 PM	75.8	104.1	92.8	49.1
2/4/2014 6:18:00 PM	52.5	72.9	59.5	44.6
2/4/2014 6:19:00 PM	54.9	73.5	61.7	45.0
2/4/2014 6:20:00 PM	51.4	68.2	57.0	48.6
2/4/2014 6:21:00 PM	54.7	74.1	60.7	49.7
2/4/2014 6:22:00 PM	51.7	68.6	55.7	47.9
2/4/2014 6:23:00 PM	53.2	69.4	56.5	46.6
2/4/2014 6:24:00 PM	52.5	70.1	58.9	45.5
2/4/2014 6:25:00 PM	54.5	71.1	57.9	47.6
2/4/2014 6:26:00 PM	52.5	71.6	58.3	46.4
2/4/2014 6:27:00 PM	55.1	71.9	60.1	48.6
2/4/2014 6:28:00 PM	54.3	71.4	59.2	49.1
2/4/2014 6:29:00 PM	57.7	85.3	71.5	49.0
2/4/2014 6:30:00 PM	56.0	72.6	62.1	50.2
2/4/2014 6:31:00 PM	54.7	71.4	58.6	46.9
2/4/2014 6:32:00 PM	51.3	68.0	54.8	48.0
2/4/2014 6:33:00 PM	54.8	74.6	60.8	49.5
2/4/2014 6:34:00 PM	52.7	67.4	55.2	49.0
2/4/2014 6:35:00 PM	54.3	71.7	60.6	47.5
2/4/2014 6:36:00 PM	54.2	71.8	59.2	47.7

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 6:37:00 PM	54.2	71.5	57.7	46.3
2/4/2014 6:38:00 PM	51.0	70.4	55.5	45.5
2/4/2014 6:39:00 PM	74.7	98.4	86.8	50.5
2/4/2014 6:40:00 PM	52.7	67.9	56.6	47.7
2/4/2014 6:41:00 PM	54.4	74.9	63.2	46.5
2/4/2014 6:42:00 PM	52.4	69.8	57.1	44.9
2/4/2014 6:43:00 PM	52.3	73.6	56.5	43.0
2/4/2014 6:44:00 PM	51.8	69.2	56.9	47.3
2/4/2014 6:45:00 PM	54.9	71.9	59.0	47.3
2/4/2014 6:46:00 PM	53.0	71.3	56.4	50.0
2/4/2014 6:47:00 PM	52.7	70.2	59.3	46.8
2/4/2014 6:48:00 PM	52.3	68.2	55.8	44.4
2/4/2014 6:49:00 PM	51.5	68.8	56.6	43.6
2/4/2014 6:50:00 PM	52.6	82.7	68.0	45.0
2/4/2014 6:51:00 PM	54.9	74.0	60.4	49.3
2/4/2014 6:52:00 PM	52.6	70.0	57.4	46.4
2/4/2014 6:53:00 PM	52.6	69.8	58.3	46.7
2/4/2014 6:54:00 PM	52.5	69.6	57.7	44.5
2/4/2014 6:55:00 PM	52.9	70.3	58.0	42.8
2/4/2014 6:56:00 PM	54.4	76.8	65.9	49.2
2/4/2014 6:57:00 PM	53.9	70.7	58.3	49.0
2/4/2014 6:58:00 PM	51.7	70.1	56.6	45.3
2/4/2014 6:59:00 PM	52.1	68.7	57.1	45.8
2/4/2014 7:00:00 PM	52.7	71.5	58.3	44.0
2/4/2014 7:01:00 PM	53.7	71.0	57.7	46.9
2/4/2014 7:02:00 PM	50.4	68.4	55.9	43.4
2/4/2014 7:03:00 PM	52.8	69.4	56.7	44.7
2/4/2014 7:04:00 PM	52.3	78.6	64.4	45.5
2/4/2014 7:05:00 PM	53.2	70.1	58.3	47.8
2/4/2014 7:06:00 PM	53.7	80.4	65.6	48.7
2/4/2014 7:07:00 PM	55.2	71.8	60.4	51.0
2/4/2014 7:08:00 PM	49.2	70.6	55.3	43.6
2/4/2014 7:09:00 PM	53.4	70.5	58.4	46.3
2/4/2014 7:10:00 PM	52.0	77.2	57.5	46.1
2/4/2014 7:11:00 PM	49.7	67.5	53.1	46.3
2/4/2014 7:12:00 PM	51.1	71.6	58.2	45.8
2/4/2014 7:13:00 PM	53.8	71.1	58.8	45.4
2/4/2014 7:14:00 PM	52.7	71.1	58.3	46.5
2/4/2014 7:15:00 PM	51.5	67.9	55.0	46.8
2/4/2014 7:16:00 PM	55.2	84.9	70.3	45.8
2/4/2014 7:17:00 PM	51.7	68.8	56.1	45.7
2/4/2014 7:18:00 PM	53.9	72.9	60.1	45.9
2/4/2014 7:19:00 PM	58.7	83.0	67.2	45.3
2/4/2014 7:20:00 PM	53.2	71.2	57.6	49.1
2/4/2014 7:21:00 PM	74.7	100.3	89.9	49.2
2/4/2014 7:22:00 PM	54.1	69.4	57.2	48.0
2/4/2014 7:23:00 PM	49.6	70.4	56.6	42.2
2/4/2014 7:24:00 PM	52.3	70.9	56.3	47.8
2/4/2014 7:25:00 PM	52.4	69.9	56.0	44.7
2/4/2014 7:26:00 PM	52.7	68.1	56.5	48.1
2/4/2014 7:27:00 PM	53.0	71.3	58.6	47.2
2/4/2014 7:28:00 PM	52.8	69.2	57.0	44.3
2/4/2014 7:29:00 PM	51.6	68.7	56.3	45.2
2/4/2014 7:30:00 PM	51.6	66.9	54.7	47.1
2/4/2014 7:31:00 PM	53.6	69.8	59.9	46.4
2/4/2014 7:32:00 PM	49.4	71.0	57.4	42.6
2/4/2014 7:33:00 PM	52.6	75.8	64.2	43.9
2/4/2014 7:34:00 PM	52.1	69.5	57.0	45.1
2/4/2014 7:35:00 PM	50.0	70.0	56.7	43.5
2/4/2014 7:36:00 PM	52.2	71.1	60.4	44.9
2/4/2014 7:37:00 PM	52.0	68.1	55.2	46.0
2/4/2014 7:38:00 PM	51.9	72.3	57.1	46.0
2/4/2014 7:39:00 PM	53.0	68.7	56.8	47.2
2/4/2014 7:40:00 PM	53.3	70.6	58.9	46.0
2/4/2014 7:41:00 PM	51.1	68.9	56.7	44.7
2/4/2014 7:42:00 PM	48.1	66.1	53.3	42.0
2/4/2014 7:43:00 PM	49.1	67.4	55.0	41.7
2/4/2014 7:44:00 PM	49.7	74.5	57.1	42.0
2/4/2014 7:45:00 PM	50.4	71.0	57.1	41.1
2/4/2014 7:46:00 PM	51.6	73.9	59.3	42.5
2/4/2014 7:47:00 PM	50.8	67.9	54.3	44.2
2/4/2014 7:48:00 PM	50.0	72.3	57.3	44.1
2/4/2014 7:49:00 PM	53.0	68.6	56.8	45.7
2/4/2014 7:50:00 PM	49.3	71.4	58.6	43.6
2/4/2014 7:51:00 PM	51.7	77.3	62.8	44.7
2/4/2014 7:52:00 PM	83.8	111.6	99.5	49.7
2/4/2014 7:53:00 PM	50.9	69.6	58.6	42.6

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 7:54:00 PM	49.2	69.8	54.4	43.7
2/4/2014 7:55:00 PM	53.7	73.2	62.4	44.5
2/4/2014 7:56:00 PM	49.4	69.3	54.7	45.1
2/4/2014 7:57:00 PM	50.7	67.3	54.3	47.3
2/4/2014 7:58:00 PM	50.6	68.1	55.9	44.8
2/4/2014 7:59:00 PM	48.2	68.3	57.3	42.2
2/4/2014 8:00:00 PM	50.4	69.4	56.7	45.1
2/4/2014 8:01:00 PM	49.5	68.5	55.6	42.1
2/4/2014 8:02:00 PM	51.9	72.9	61.0	41.3
2/4/2014 8:03:00 PM	77.0	104.8	93.8	51.5
2/4/2014 8:04:00 PM	52.4	69.2	56.4	46.0
2/4/2014 8:05:00 PM	51.0	79.5	57.3	42.8
2/4/2014 8:06:00 PM	51.2	74.1	55.8	45.9
2/4/2014 8:07:00 PM	52.6	70.3	56.5	46.3
2/4/2014 8:08:00 PM	50.3	69.2	55.2	43.9
2/4/2014 8:09:00 PM	50.5	70.4	57.1	40.6
2/4/2014 8:10:00 PM	49.4	67.4	54.9	41.0
2/4/2014 8:11:00 PM	47.8	66.2	53.6	43.5
2/4/2014 8:12:00 PM	51.0	68.0	55.9	41.4
2/4/2014 8:13:00 PM	49.1	81.1	64.3	43.2
2/4/2014 8:14:00 PM	50.7	69.0	57.0	44.7
2/4/2014 8:15:00 PM	52.6	70.7	57.8	46.2
2/4/2014 8:16:00 PM	50.8	71.3	57.4	44.4
2/4/2014 8:17:00 PM	48.8	69.2	56.1	40.2
2/4/2014 8:18:00 PM	52.3	71.2	57.2	46.0
2/4/2014 8:19:00 PM	48.8	66.0	53.9	41.6
2/4/2014 8:20:00 PM	43.3	62.5	50.2	38.6
2/4/2014 8:21:00 PM	50.6	70.4	55.2	42.5
2/4/2014 8:22:00 PM	51.8	70.3	57.1	41.8
2/4/2014 8:23:00 PM	49.5	67.0	55.3	43.5
2/4/2014 8:24:00 PM	50.4	68.5	57.3	44.4
2/4/2014 8:25:00 PM	54.0	72.6	59.9	47.2
2/4/2014 8:26:00 PM	50.5	70.7	57.4	44.8
2/4/2014 8:27:00 PM	49.8	68.9	56.9	40.0
2/4/2014 8:28:00 PM	51.5	70.5	57.0	41.4
2/4/2014 8:29:00 PM	47.7	68.0	53.9	40.9
2/4/2014 8:30:00 PM	50.3	66.3	55.1	42.5
2/4/2014 8:31:00 PM	51.6	71.5	56.9	41.2
2/4/2014 8:32:00 PM	58.2	79.2	65.7	44.6
2/4/2014 8:33:00 PM	50.1	69.2	57.6	45.4
2/4/2014 8:34:00 PM	54.9	81.4	67.9	48.3
2/4/2014 8:35:00 PM	46.8	67.0	55.1	42.1
2/4/2014 8:36:00 PM	50.8	68.3	55.8	44.2
2/4/2014 8:37:00 PM	52.4	77.1	56.8	47.6
2/4/2014 8:38:00 PM	54.4	89.5	69.1	46.3
2/4/2014 8:39:00 PM	50.8	69.0	56.2	43.8
2/4/2014 8:40:00 PM	48.1	67.1	53.0	43.7
2/4/2014 8:41:00 PM	48.0	67.7	54.4	40.5
2/4/2014 8:42:00 PM	50.5	67.7	56.3	39.8
2/4/2014 8:43:00 PM	51.6	79.9	62.4	39.9
2/4/2014 8:44:00 PM	47.7	66.9	52.8	40.9
2/4/2014 8:45:00 PM	49.9	68.8	55.2	41.1
2/4/2014 8:46:00 PM	51.2	68.9	56.5	43.3
2/4/2014 8:47:00 PM	55.1	76.7	67.6	44.9
2/4/2014 8:48:00 PM	52.2	71.0	56.7	47.2
2/4/2014 8:49:00 PM	52.9	77.8	63.3	47.0
2/4/2014 8:50:00 PM	51.2	75.4	64.0	41.3
2/4/2014 8:51:00 PM	48.3	66.3	54.5	41.0
2/4/2014 8:52:00 PM	51.5	69.1	56.8	44.4
2/4/2014 8:53:00 PM	50.6	68.9	55.0	46.0
2/4/2014 8:54:00 PM	53.2	82.3	63.8	48.1
2/4/2014 8:55:00 PM	64.0	94.0	81.9	48.9
2/4/2014 8:56:00 PM	72.9	102.5	90.6	46.3
2/4/2014 8:57:00 PM	49.2	65.7	53.7	44.9
2/4/2014 8:58:00 PM	53.9	71.8	62.3	46.0
2/4/2014 8:59:00 PM	47.5	69.2	54.4	40.8
2/4/2014 9:00:00 PM	50.9	67.5	55.1	46.1
2/4/2014 9:01:00 PM	57.6	77.8	66.1	45.4
2/4/2014 9:02:00 PM	56.5	78.2	66.3	47.0
2/4/2014 9:03:00 PM	54.0	73.4	60.7	46.8
2/4/2014 9:04:00 PM	54.0	77.3	64.6	46.5
2/4/2014 9:05:00 PM	51.0	74.1	60.5	43.8
2/4/2014 9:06:00 PM	50.0	72.3	58.1	42.7
2/4/2014 9:07:00 PM	52.1	69.9	56.7	46.2
2/4/2014 9:08:00 PM	49.1	68.8	55.3	43.7
2/4/2014 9:09:00 PM	56.1	83.4	69.9	47.3
2/4/2014 9:10:00 PM	50.3	72.2	57.9	44.5

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 9:11:00 PM	51.9	67.8	56.6	46.9
2/4/2014 9:12:00 PM	51.7	66.8	54.4	46.0
2/4/2014 9:13:00 PM	48.6	66.0	53.4	43.3
2/4/2014 9:14:00 PM	52.8	77.0	59.4	46.8
2/4/2014 9:15:00 PM	49.6	68.6	54.3	42.1
2/4/2014 9:16:00 PM	48.3	64.0	52.1	44.5
2/4/2014 9:17:00 PM	51.5	71.7	57.4	41.8
2/4/2014 9:18:00 PM	49.3	68.0	53.0	44.8
2/4/2014 9:19:00 PM	51.4	73.1	58.2	42.6
2/4/2014 9:20:00 PM	53.6	70.3	58.1	45.7
2/4/2014 9:21:00 PM	51.7	73.5	57.5	41.0
2/4/2014 9:22:00 PM	47.8	67.1	54.1	41.9
2/4/2014 9:23:00 PM	51.8	69.8	57.3	46.6
2/4/2014 9:24:00 PM	56.3	82.9	72.8	43.6
2/4/2014 9:25:00 PM	78.4	105.9	95.4	54.4
2/4/2014 9:26:00 PM	68.8	90.1	76.0	64.9
2/4/2014 9:27:00 PM	63.7	85.9	72.2	49.1
2/4/2014 9:28:00 PM	48.4	67.3	53.7	42.1
2/4/2014 9:29:00 PM	53.2	70.6	58.3	42.9
2/4/2014 9:30:00 PM	52.1	71.5	59.2	40.5
2/4/2014 9:31:00 PM	54.1	72.6	59.2	47.2
2/4/2014 9:32:00 PM	59.0	81.9	66.1	48.6
2/4/2014 9:33:00 PM	52.3	69.4	56.9	43.3
2/4/2014 9:34:00 PM	51.0	73.5	60.6	44.4
2/4/2014 9:35:00 PM	50.9	69.5	56.4	45.5
2/4/2014 9:36:00 PM	49.8	69.2	56.3	41.8
2/4/2014 9:37:00 PM	46.7	69.8	53.5	40.3
2/4/2014 9:38:00 PM	51.6	72.5	59.4	45.0
2/4/2014 9:39:00 PM	49.3	70.2	56.5	40.8
2/4/2014 9:40:00 PM	47.0	64.2	52.1	41.0
2/4/2014 9:41:00 PM	51.6	69.2	57.1	45.4
2/4/2014 9:42:00 PM	52.0	70.8	57.6	46.4
2/4/2014 9:43:00 PM	50.4	69.7	54.8	46.0
2/4/2014 9:44:00 PM	51.4	71.7	58.0	43.5
2/4/2014 9:45:00 PM	48.3	70.0	55.1	40.7
2/4/2014 9:46:00 PM	49.3	70.2	54.4	44.0
2/4/2014 9:47:00 PM	53.0	69.9	57.8	49.2
2/4/2014 9:48:00 PM	49.8	68.7	54.8	45.3
2/4/2014 9:49:00 PM	49.7	69.2	57.0	43.2
2/4/2014 9:50:00 PM	50.7	70.3	56.6	45.7
2/4/2014 9:51:00 PM	48.8	69.6	55.4	43.4
2/4/2014 9:52:00 PM	49.9	71.2	57.2	42.1
2/4/2014 9:53:00 PM	49.3	71.9	55.0	41.9
2/4/2014 9:54:00 PM	48.6	67.5	54.8	41.9
2/4/2014 9:55:00 PM	48.3	66.6	53.2	43.4
2/4/2014 9:56:00 PM	51.4	68.9	56.6	45.8
2/4/2014 9:57:00 PM	55.5	73.9	61.6	44.6
2/4/2014 9:58:00 PM	49.2	67.3	55.0	43.0
2/4/2014 9:59:00 PM	48.5	69.0	50.9	45.4
2/4/2014 10:00:00 PM	53.0	81.5	64.7	46.6
2/4/2014 10:01:00 PM	52.1	74.8	63.9	43.9
2/4/2014 10:02:00 PM	50.1	68.8	56.1	42.6
2/4/2014 10:03:00 PM	48.2	67.2	51.9	41.7
2/4/2014 10:04:00 PM	47.1	66.3	53.1	42.4
2/4/2014 10:05:00 PM	51.4	71.1	59.6	42.9
2/4/2014 10:06:00 PM	48.4	69.0	51.9	40.8
2/4/2014 10:07:00 PM	45.0	63.3	50.2	41.3
2/4/2014 10:08:00 PM	48.6	71.0	55.2	40.5
2/4/2014 10:09:00 PM	49.7	71.7	57.9	41.5
2/4/2014 10:10:00 PM	50.0	68.8	54.6	42.7
2/4/2014 10:11:00 PM	49.0	67.1	54.6	42.0
2/4/2014 10:12:00 PM	50.3	69.3	56.5	42.7
2/4/2014 10:13:00 PM	46.1	66.6	53.9	39.5
2/4/2014 10:14:00 PM	48.5	68.0	55.1	41.2
2/4/2014 10:15:00 PM	51.6	68.3	56.5	41.4
2/4/2014 10:16:00 PM	47.1	68.7	56.3	40.0
2/4/2014 10:17:00 PM	49.4	68.3	56.1	39.9
2/4/2014 10:18:00 PM	45.0	64.5	51.4	39.6
2/4/2014 10:19:00 PM	49.3	72.4	58.8	40.3
2/4/2014 10:20:00 PM	48.9	67.5	54.7	44.4
2/4/2014 10:21:00 PM	48.4	66.6	54.7	41.2
2/4/2014 10:22:00 PM	44.7	64.4	51.6	39.7
2/4/2014 10:23:00 PM	47.1	67.5	52.7	40.9
2/4/2014 10:24:00 PM	46.8	64.7	51.9	40.5
2/4/2014 10:25:00 PM	44.6	63.9	51.5	39.9
2/4/2014 10:26:00 PM	49.4	70.8	58.2	39.9
2/4/2014 10:27:00 PM	46.1	66.9	53.5	40.3

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 10:28:00 PM	48.2	71.3	58.4	40.7
2/4/2014 10:29:00 PM	46.8	66.1	53.3	41.5
2/4/2014 10:30:00 PM	50.7	66.1	54.7	42.8
2/4/2014 10:31:00 PM	48.4	67.5	53.5	41.0
2/4/2014 10:32:00 PM	48.0	68.2	55.9	41.8
2/4/2014 10:33:00 PM	48.5	69.3	57.0	43.1
2/4/2014 10:34:00 PM	52.7	76.9	65.2	40.7
2/4/2014 10:35:00 PM	48.4	67.9	56.8	40.6
2/4/2014 10:36:00 PM	49.1	66.5	54.0	41.1
2/4/2014 10:37:00 PM	46.8	64.2	51.1	42.0
2/4/2014 10:38:00 PM	52.0	69.8	59.3	43.6
2/4/2014 10:39:00 PM	55.3	80.9	68.5	41.3
2/4/2014 10:40:00 PM	46.0	65.2	52.1	40.8
2/4/2014 10:41:00 PM	48.8	67.1	54.0	43.2
2/4/2014 10:42:00 PM	47.0	67.4	52.3	42.2
2/4/2014 10:43:00 PM	44.7	68.4	54.4	41.4
2/4/2014 10:44:00 PM	50.2	68.3	56.4	44.2
2/4/2014 10:45:00 PM	49.3	68.5	56.6	42.5
2/4/2014 10:46:00 PM	48.1	66.9	53.3	44.0
2/4/2014 10:47:00 PM	49.8	70.0	57.6	42.5
2/4/2014 10:48:00 PM	49.8	71.2	56.6	42.3
2/4/2014 10:49:00 PM	47.0	69.4	55.2	41.8
2/4/2014 10:50:00 PM	47.7	65.7	53.1	44.1
2/4/2014 10:51:00 PM	45.2	66.8	49.1	42.2
2/4/2014 10:52:00 PM	46.0	63.0	49.4	41.7
2/4/2014 10:53:00 PM	48.3	70.2	54.6	43.7
2/4/2014 10:54:00 PM	55.0	79.6	67.1	42.4
2/4/2014 10:55:00 PM	47.2	68.6	53.9	42.6
2/4/2014 10:56:00 PM	49.2	71.1	57.1	43.2
2/4/2014 10:57:00 PM	43.8	61.9	50.0	42.0
2/4/2014 10:58:00 PM	50.5	74.9	63.0	44.7
2/4/2014 10:59:00 PM	44.2	61.8	49.5	41.9
2/4/2014 11:00:00 PM	47.3	64.9	52.2	41.8
2/4/2014 11:01:00 PM	47.7	67.5	55.8	43.0
2/4/2014 11:02:00 PM	46.3	64.9	52.7	41.9
2/4/2014 11:03:00 PM	53.7	79.4	66.9	42.0
2/4/2014 11:04:00 PM	46.3	62.9	50.6	42.7
2/4/2014 11:05:00 PM	46.4	66.4	54.7	42.4
2/4/2014 11:06:00 PM	48.4	64.4	52.6	43.9
2/4/2014 11:07:00 PM	42.7	58.2	46.1	41.4
2/4/2014 11:08:00 PM	49.8	69.6	55.8	42.1
2/4/2014 11:09:00 PM	45.9	63.9	49.7	42.4
2/4/2014 11:10:00 PM	48.4	66.4	53.6	42.2
2/4/2014 11:11:00 PM	47.2	68.5	54.3	41.0
2/4/2014 11:12:00 PM	49.9	67.6	55.1	43.3
2/4/2014 11:13:00 PM	49.0	75.5	58.5	42.3
2/4/2014 11:14:00 PM	48.4	68.6	54.0	43.5
2/4/2014 11:15:00 PM	47.0	66.3	52.2	42.6
2/4/2014 11:16:00 PM	49.0	66.8	53.7	45.0
2/4/2014 11:17:00 PM	45.0	62.8	50.3	41.6
2/4/2014 11:18:00 PM	51.7	77.8	61.3	44.9
2/4/2014 11:19:00 PM	49.9	68.4	56.1	43.6
2/4/2014 11:20:00 PM	46.3	66.4	51.8	42.8
2/4/2014 11:21:00 PM	48.8	66.8	54.0	42.6
2/4/2014 11:22:00 PM	48.1	67.6	55.2	42.8
2/4/2014 11:23:00 PM	48.2	68.7	54.0	43.8
2/4/2014 11:24:00 PM	46.1	63.3	50.7	41.5
2/4/2014 11:25:00 PM	44.0	63.1	50.4	41.2
2/4/2014 11:26:00 PM	48.4	66.0	52.1	42.0
2/4/2014 11:27:00 PM	48.7	73.8	56.4	43.7
2/4/2014 11:28:00 PM	43.5	58.1	46.1	42.0
2/4/2014 11:29:00 PM	51.7	72.6	60.3	42.8
2/4/2014 11:30:00 PM	46.4	67.4	53.8	42.5
2/4/2014 11:31:00 PM	50.1	73.7	58.6	41.8
2/4/2014 11:32:00 PM	43.2	63.1	48.1	41.4
2/4/2014 11:33:00 PM	42.6	56.9	45.3	41.7
2/4/2014 11:34:00 PM	45.9	65.6	53.9	41.6
2/4/2014 11:35:00 PM	51.2	73.5	57.7	42.1
2/4/2014 11:36:00 PM	43.8	62.2	48.4	41.5
2/4/2014 11:37:00 PM	42.6	61.1	48.3	41.2
2/4/2014 11:38:00 PM	44.1	64.5	51.4	41.7
2/4/2014 11:39:00 PM	50.5	69.8	57.0	43.8
2/4/2014 11:40:00 PM	49.1	68.7	56.5	41.5
2/4/2014 11:41:00 PM	44.3	61.7	50.4	41.3
2/4/2014 11:42:00 PM	45.0	68.0	51.7	41.0
2/4/2014 11:43:00 PM	43.0	59.9	47.3	41.7
2/4/2014 11:44:00 PM	47.8	67.9	55.0	42.9

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/4/2014 11:45:00 PM	49.0	66.0	53.3	43.3
2/4/2014 11:46:00 PM	45.5	64.8	51.9	42.7
2/4/2014 11:47:00 PM	46.6	66.6	53.7	42.9
2/4/2014 11:48:00 PM	48.5	67.9	53.7	43.3
2/4/2014 11:49:00 PM	46.2	62.3	51.1	42.7
2/4/2014 11:50:00 PM	51.0	73.7	62.1	43.7
2/4/2014 11:51:00 PM	46.6	67.5	53.3	42.9
2/4/2014 11:52:00 PM	43.3	58.6	46.1	42.1
2/4/2014 11:53:00 PM	44.2	61.1	50.1	41.8
2/4/2014 11:54:00 PM	45.0	64.9	51.3	42.2
2/4/2014 11:55:00 PM	45.6	64.6	52.9	42.2
2/4/2014 11:56:00 PM	52.6	70.5	59.3	46.5
2/4/2014 11:57:00 PM	47.8	66.0	52.5	42.9
2/4/2014 11:58:00 PM	43.0	56.8	44.4	42.1
2/4/2014 11:59:00 PM	44.4	61.9	52.1	42.3
2/5/2014 12:00:00 AM	43.2	57.0	44.4	42.3
2/5/2014 12:01:00 AM	46.7	65.0	51.2	43.2
2/5/2014 12:02:00 AM	44.6	64.0	51.2	42.1
2/5/2014 12:03:00 AM	46.2	65.1	52.4	42.5
2/5/2014 12:04:00 AM	43.3	58.9	47.0	42.0
2/5/2014 12:05:00 AM	44.0	63.5	53.0	41.8
2/5/2014 12:06:00 AM	52.6	69.5	58.6	42.5
2/5/2014 12:07:00 AM	46.7	66.4	52.1	42.7
2/5/2014 12:08:00 AM	47.0	65.4	54.0	42.1
2/5/2014 12:09:00 AM	46.0	67.6	54.3	42.1
2/5/2014 12:10:00 AM	46.0	63.3	50.7	42.9
2/5/2014 12:11:00 AM	42.6	61.3	47.6	39.9
2/5/2014 12:12:00 AM	43.0	59.8	48.0	39.8
2/5/2014 12:13:00 AM	47.3	72.1	58.7	41.8
2/5/2014 12:14:00 AM	44.5	65.2	49.5	39.5
2/5/2014 12:15:00 AM	42.6	59.1	46.0	39.8
2/5/2014 12:16:00 AM	42.3	58.4	46.1	40.4
2/5/2014 12:17:00 AM	46.4	70.7	53.1	41.0
2/5/2014 12:18:00 AM	44.0	65.2	51.4	40.0
2/5/2014 12:19:00 AM	42.6	61.4	48.4	40.0
2/5/2014 12:20:00 AM	47.6	66.3	54.6	41.6
2/5/2014 12:21:00 AM	46.5	68.8	54.2	40.8
2/5/2014 12:22:00 AM	49.0	70.4	59.0	41.8
2/5/2014 12:23:00 AM	42.7	61.1	48.5	40.2
2/5/2014 12:24:00 AM	44.8	64.0	49.4	40.9
2/5/2014 12:25:00 AM	43.8	65.1	51.6	39.5
2/5/2014 12:26:00 AM	42.7	62.1	49.7	40.2
2/5/2014 12:27:00 AM	50.0	71.7	62.4	41.9
2/5/2014 12:28:00 AM	47.2	67.7	52.4	42.8
2/5/2014 12:29:00 AM	47.2	64.7	52.1	43.8
2/5/2014 12:30:00 AM	44.5	63.1	50.1	40.1
2/5/2014 12:31:00 AM	40.8	54.7	42.4	39.8
2/5/2014 12:32:00 AM	42.1	61.7	47.6	39.9
2/5/2014 12:33:00 AM	44.4	65.7	53.8	39.6
2/5/2014 12:34:00 AM	47.0	67.4	53.0	41.3
2/5/2014 12:35:00 AM	42.7	63.9	49.7	40.2
2/5/2014 12:36:00 AM	47.4	70.2	58.4	40.9
2/5/2014 12:37:00 AM	43.6	63.0	52.1	40.9
2/5/2014 12:38:00 AM	41.9	59.8	45.8	40.4
2/5/2014 12:39:00 AM	46.0	68.4	54.0	41.4
2/5/2014 12:40:00 AM	41.5	56.8	44.3	40.5
2/5/2014 12:41:00 AM	43.8	63.8	49.8	40.6
2/5/2014 12:42:00 AM	44.4	63.3	50.6	41.6
2/5/2014 12:43:00 AM	49.2	72.8	57.5	44.5
2/5/2014 12:44:00 AM	46.1	64.4	51.6	41.7
2/5/2014 12:45:00 AM	46.0	67.2	52.9	41.5
2/5/2014 12:46:00 AM	48.8	70.0	57.2	41.9
2/5/2014 12:47:00 AM	49.7	69.6	55.6	42.4
2/5/2014 12:48:00 AM	43.4	63.4	50.4	42.0
2/5/2014 12:49:00 AM	52.5	76.5	63.3	44.5
2/5/2014 12:50:00 AM	50.3	70.5	58.1	46.0
2/5/2014 12:51:00 AM	47.9	66.7	53.4	43.6
2/5/2014 12:52:00 AM	44.6	58.6	46.2	43.6
2/5/2014 12:53:00 AM	44.6	59.0	46.1	43.6
2/5/2014 12:54:00 AM	46.0	62.1	49.6	43.8
2/5/2014 12:55:00 AM	46.9	69.8	55.5	43.9
2/5/2014 12:56:00 AM	49.9	72.2	59.3	45.5
2/5/2014 12:57:00 AM	45.9	60.4	46.7	45.1
2/5/2014 12:58:00 AM	46.8	64.8	52.7	45.4
2/5/2014 12:59:00 AM	48.4	68.5	53.5	45.1
2/5/2014 1:00:00 AM	47.2	64.3	51.1	45.0
2/5/2014 1:01:00 AM	46.5	62.3	50.6	44.7

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 1:02:00 AM	49.7	69.2	56.8	45.2
2/5/2014 1:03:00 AM	48.9	69.0	55.2	46.0
2/5/2014 1:04:00 AM	50.2	68.0	56.4	44.3
2/5/2014 1:05:00 AM	44.8	60.9	47.8	43.4
2/5/2014 1:06:00 AM	46.6	69.1	53.2	43.4
2/5/2014 1:07:00 AM	46.3	67.6	53.2	42.9
2/5/2014 1:08:00 AM	47.9	66.4	53.3	44.5
2/5/2014 1:09:00 AM	46.0	63.3	49.1	44.2
2/5/2014 1:10:00 AM	47.4	65.1	52.9	44.0
2/5/2014 1:11:00 AM	46.3	64.3	51.9	43.1
2/5/2014 1:12:00 AM	46.7	68.7	55.2	43.7
2/5/2014 1:13:00 AM	45.5	62.5	50.2	43.5
2/5/2014 1:14:00 AM	48.6	70.0	56.5	43.7
2/5/2014 1:15:00 AM	47.6	67.6	54.6	43.4
2/5/2014 1:16:00 AM	47.0	67.6	54.5	43.1
2/5/2014 1:17:00 AM	43.2	58.5	47.1	41.7
2/5/2014 1:18:00 AM	43.7	62.0	51.3	41.9
2/5/2014 1:19:00 AM	46.1	66.8	53.6	42.8
2/5/2014 1:20:00 AM	45.9	63.0	50.1	43.2
2/5/2014 1:21:00 AM	43.4	59.3	45.1	42.1
2/5/2014 1:22:00 AM	43.6	61.0	45.8	42.4
2/5/2014 1:23:00 AM	46.4	65.9	52.7	42.9
2/5/2014 1:24:00 AM	45.4	62.7	50.4	42.9
2/5/2014 1:25:00 AM	45.7	65.5	50.2	43.2
2/5/2014 1:26:00 AM	47.9	70.1	55.0	43.5
2/5/2014 1:27:00 AM	43.9	64.4	48.2	42.6
2/5/2014 1:28:00 AM	47.6	70.9	56.2	43.5
2/5/2014 1:29:00 AM	44.2	58.1	45.5	43.3
2/5/2014 1:30:00 AM	44.3	57.9	45.5	43.3
2/5/2014 1:31:00 AM	44.3	58.3	47.1	43.3
2/5/2014 1:32:00 AM	46.5	66.5	53.5	43.1
2/5/2014 1:33:00 AM	44.4	61.7	47.6	43.0
2/5/2014 1:34:00 AM	45.7	68.2	54.7	42.0
2/5/2014 1:35:00 AM	43.1	57.1	44.7	42.2
2/5/2014 1:36:00 AM	45.6	68.9	52.7	42.0
2/5/2014 1:37:00 AM	43.7	67.4	51.9	41.9
2/5/2014 1:38:00 AM	45.0	62.3	51.0	42.5
2/5/2014 1:39:00 AM	43.2	57.8	44.2	42.1
2/5/2014 1:40:00 AM	51.1	81.0	64.7	42.4
2/5/2014 1:41:00 AM	45.3	65.6	50.8	42.6
2/5/2014 1:42:00 AM	43.6	58.5	46.7	42.4
2/5/2014 1:43:00 AM	47.1	68.1	56.2	43.3
2/5/2014 1:44:00 AM	48.0	64.8	51.7	43.7
2/5/2014 1:45:00 AM	44.5	59.4	46.2	43.5
2/5/2014 1:46:00 AM	44.1	58.7	45.2	43.1
2/5/2014 1:47:00 AM	44.7	62.7	48.6	43.4
2/5/2014 1:48:00 AM	50.2	69.9	56.2	44.1
2/5/2014 1:49:00 AM	46.4	66.0	56.3	42.7
2/5/2014 1:50:00 AM	47.0	67.3	53.3	43.2
2/5/2014 1:51:00 AM	43.3	59.1	46.1	42.3
2/5/2014 1:52:00 AM	45.3	67.3	51.5	42.5
2/5/2014 1:53:00 AM	46.3	68.2	55.2	42.1
2/5/2014 1:54:00 AM	44.9	68.4	49.7	42.4
2/5/2014 1:55:00 AM	46.0	70.0	58.2	42.5
2/5/2014 1:56:00 AM	48.4	68.8	55.9	43.4
2/5/2014 1:57:00 AM	45.5	63.8	51.7	42.6
2/5/2014 1:58:00 AM	43.9	58.2	46.0	42.5
2/5/2014 1:59:00 AM	43.1	63.8	49.6	41.9
2/5/2014 2:00:00 AM	47.2	63.5	51.4	43.3
2/5/2014 2:01:00 AM	44.4	59.0	47.8	42.9
2/5/2014 2:02:00 AM	46.5	67.5	54.0	43.5
2/5/2014 2:03:00 AM	45.2	62.1	48.8	43.1
2/5/2014 2:04:00 AM	45.8	66.6	51.3	42.7
2/5/2014 2:05:00 AM	43.4	57.9	45.4	42.3
2/5/2014 2:06:00 AM	47.1	68.2	54.4	42.6
2/5/2014 2:07:00 AM	44.6	60.5	48.5	42.2
2/5/2014 2:08:00 AM	44.9	62.3	50.5	41.9
2/5/2014 2:09:00 AM	49.1	71.4	58.2	41.6
2/5/2014 2:10:00 AM	45.5	69.5	51.1	42.7
2/5/2014 2:11:00 AM	42.7	60.2	45.9	41.6
2/5/2014 2:12:00 AM	43.9	63.2	50.4	41.9
2/5/2014 2:13:00 AM	45.6	67.1	53.2	41.2
2/5/2014 2:14:00 AM	44.3	63.0	49.7	41.0
2/5/2014 2:15:00 AM	42.8	58.5	46.4	41.6
2/5/2014 2:16:00 AM	44.4	64.9	50.6	42.0
2/5/2014 2:17:00 AM	45.3	65.2	51.7	41.8
2/5/2014 2:18:00 AM	46.8	63.9	51.3	43.1

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 2:19:00 AM	53.2	71.7	58.0	45.7
2/5/2014 2:20:00 AM	49.3	69.1	55.7	43.3
2/5/2014 2:21:00 AM	44.7	63.5	50.7	41.5
2/5/2014 2:22:00 AM	42.0	62.8	43.5	41.2
2/5/2014 2:23:00 AM	46.1	65.5	51.7	41.5
2/5/2014 2:24:00 AM	44.4	62.4	50.7	40.9
2/5/2014 2:25:00 AM	41.3	56.0	43.4	40.5
2/5/2014 2:26:00 AM	41.1	55.1	42.3	40.1
2/5/2014 2:27:00 AM	42.7	60.5	48.1	40.0
2/5/2014 2:28:00 AM	43.8	64.6	49.5	40.3
2/5/2014 2:29:00 AM	42.3	60.2	47.1	39.7
2/5/2014 2:30:00 AM	45.1	63.2	51.5	40.9
2/5/2014 2:31:00 AM	45.6	63.9	52.6	41.0
2/5/2014 2:32:00 AM	42.4	67.5	53.4	40.5
2/5/2014 2:33:00 AM	42.3	62.2	47.3	39.8
2/5/2014 2:34:00 AM	45.2	64.9	50.9	40.9
2/5/2014 2:35:00 AM	44.2	61.5	49.0	42.0
2/5/2014 2:36:00 AM	44.6	63.9	50.6	41.2
2/5/2014 2:37:00 AM	48.7	66.4	53.7	43.2
2/5/2014 2:38:00 AM	46.0	67.8	52.8	42.4
2/5/2014 2:39:00 AM	43.7	59.3	46.1	41.9
2/5/2014 2:40:00 AM	45.2	64.4	50.6	41.9
2/5/2014 2:41:00 AM	45.1	63.2	50.8	41.5
2/5/2014 2:42:00 AM	44.6	70.4	53.7	40.3
2/5/2014 2:43:00 AM	43.2	61.1	45.9	40.2
2/5/2014 2:44:00 AM	44.6	63.4	49.0	41.4
2/5/2014 2:45:00 AM	43.5	62.6	49.1	41.3
2/5/2014 2:46:00 AM	45.4	66.5	53.3	42.6
2/5/2014 2:47:00 AM	48.1	74.3	58.3	43.9
2/5/2014 2:48:00 AM	45.1	60.4	49.7	43.5
2/5/2014 2:49:00 AM	45.4	61.3	49.9	43.8
2/5/2014 2:50:00 AM	49.6	69.8	55.8	45.9
2/5/2014 2:51:00 AM	46.5	63.9	52.8	43.9
2/5/2014 2:52:00 AM	46.7	66.4	52.9	43.0
2/5/2014 2:53:00 AM	46.3	61.5	51.5	43.6
2/5/2014 2:54:00 AM	44.3	62.0	52.7	41.9
2/5/2014 2:55:00 AM	42.9	59.6	46.2	41.7
2/5/2014 2:56:00 AM	46.5	69.1	57.3	41.7
2/5/2014 2:57:00 AM	43.4	60.4	49.4	42.1
2/5/2014 2:58:00 AM	47.2	70.4	54.2	42.6
2/5/2014 2:59:00 AM	46.7	63.4	50.9	42.4
2/5/2014 3:00:00 AM	43.1	56.9	44.5	42.2
2/5/2014 3:01:00 AM	43.7	59.1	46.5	42.6
2/5/2014 3:02:00 AM	49.1	72.7	57.6	44.2
2/5/2014 3:03:00 AM	50.3	70.4	55.5	41.7
2/5/2014 3:04:00 AM	45.9	67.9	53.5	41.5
2/5/2014 3:05:00 AM	48.5	67.0	55.0	43.1
2/5/2014 3:06:00 AM	45.6	65.4	52.7	41.4
2/5/2014 3:07:00 AM	46.7	65.0	51.2	42.0
2/5/2014 3:08:00 AM	44.6	62.6	50.8	41.9
2/5/2014 3:09:00 AM	47.1	64.1	51.3	41.6
2/5/2014 3:10:00 AM	41.6	55.2	43.7	40.5
2/5/2014 3:11:00 AM	41.0	55.4	42.5	39.8
2/5/2014 3:12:00 AM	40.1	55.3	43.1	38.9
2/5/2014 3:13:00 AM	41.2	57.1	43.8	39.3
2/5/2014 3:14:00 AM	43.8	64.7	53.0	39.4
2/5/2014 3:15:00 AM	46.1	63.6	51.7	40.4
2/5/2014 3:16:00 AM	42.6	58.8	47.2	40.2
2/5/2014 3:17:00 AM	42.3	58.1	45.8	40.1
2/5/2014 3:18:00 AM	46.3	69.4	56.0	40.8
2/5/2014 3:19:00 AM	42.1	60.7	47.5	40.4
2/5/2014 3:20:00 AM	41.3	59.0	45.9	39.9
2/5/2014 3:21:00 AM	41.4	60.4	45.3	39.8
2/5/2014 3:22:00 AM	42.2	60.2	47.7	40.1
2/5/2014 3:23:00 AM	42.7	61.2	47.8	40.7
2/5/2014 3:24:00 AM	49.5	73.1	62.9	42.0
2/5/2014 3:25:00 AM	45.1	65.3	52.1	41.9
2/5/2014 3:26:00 AM	46.1	69.2	56.0	42.5
2/5/2014 3:27:00 AM	47.4	69.1	57.6	41.4
2/5/2014 3:28:00 AM	42.9	58.0	46.2	41.6
2/5/2014 3:29:00 AM	44.3	60.4	47.5	41.7
2/5/2014 3:30:00 AM	45.9	65.6	51.9	41.2
2/5/2014 3:31:00 AM	44.9	61.0	50.9	41.7
2/5/2014 3:32:00 AM	45.9	65.1	53.4	42.1
2/5/2014 3:33:00 AM	45.0	64.8	50.6	41.9
2/5/2014 3:34:00 AM	45.7	65.3	51.8	41.8
2/5/2014 3:35:00 AM	44.5	65.5	51.0	41.4

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 3:36:00 AM	47.2	73.0	53.9	41.5
2/5/2014 3:37:00 AM	46.1	65.6	51.6	42.1
2/5/2014 3:38:00 AM	43.4	60.8	47.9	41.5
2/5/2014 3:39:00 AM	43.5	58.5	45.4	42.1
2/5/2014 3:40:00 AM	46.3	70.2	55.0	42.4
2/5/2014 3:41:00 AM	49.2	66.0	53.8	43.0
2/5/2014 3:42:00 AM	47.7	69.1	53.0	43.2
2/5/2014 3:43:00 AM	47.4	68.3	55.6	43.5
2/5/2014 3:44:00 AM	48.8	70.4	57.6	44.4
2/5/2014 3:45:00 AM	47.4	67.2	53.6	42.5
2/5/2014 3:46:00 AM	43.6	59.2	46.6	41.7
2/5/2014 3:47:00 AM	43.4	61.8	47.0	41.7
2/5/2014 3:48:00 AM	43.6	60.0	48.3	42.4
2/5/2014 3:49:00 AM	46.3	70.4	55.0	43.1
2/5/2014 3:50:00 AM	45.9	61.6	48.1	44.3
2/5/2014 3:51:00 AM	46.3	60.3	47.5	45.0
2/5/2014 3:52:00 AM	50.2	69.3	56.6	46.2
2/5/2014 3:53:00 AM	49.9	77.3	62.6	46.3
2/5/2014 3:54:00 AM	50.1	69.2	56.2	46.9
2/5/2014 3:55:00 AM	47.8	64.0	52.0	45.9
2/5/2014 3:56:00 AM	50.4	74.9	63.3	44.4
2/5/2014 3:57:00 AM	46.6	66.6	53.1	43.9
2/5/2014 3:58:00 AM	46.3	65.4	52.4	43.1
2/5/2014 3:59:00 AM	45.4	62.9	49.7	42.9
2/5/2014 4:00:00 AM	43.6	65.7	51.2	42.4
2/5/2014 4:01:00 AM	46.3	68.0	54.4	42.4
2/5/2014 4:02:00 AM	49.6	65.8	54.1	47.0
2/5/2014 4:03:00 AM	50.7	64.0	52.4	48.4
2/5/2014 4:04:00 AM	51.3	65.9	54.3	49.5
2/5/2014 4:05:00 AM	50.3	65.1	52.2	49.0
2/5/2014 4:06:00 AM	50.6	67.1	55.4	47.1
2/5/2014 4:07:00 AM	50.2	65.3	53.7	48.5
2/5/2014 4:08:00 AM	51.3	69.6	55.9	48.6
2/5/2014 4:09:00 AM	51.5	71.3	55.7	49.2
2/5/2014 4:10:00 AM	52.8	72.1	59.3	50.0
2/5/2014 4:11:00 AM	52.7	71.1	56.9	50.8
2/5/2014 4:12:00 AM	51.5	69.1	55.0	49.4
2/5/2014 4:13:00 AM	51.6	66.8	54.0	49.6
2/5/2014 4:14:00 AM	50.9	64.7	52.3	49.5
2/5/2014 4:15:00 AM	52.6	68.2	56.3	50.6
2/5/2014 4:16:00 AM	51.6	66.9	53.6	49.8
2/5/2014 4:17:00 AM	52.7	72.1	57.5	51.0
2/5/2014 4:18:00 AM	52.2	67.0	56.4	50.7
2/5/2014 4:19:00 AM	52.1	66.1	54.0	50.9
2/5/2014 4:20:00 AM	53.1	68.2	56.5	51.7
2/5/2014 4:21:00 AM	52.7	68.4	55.6	51.5
2/5/2014 4:22:00 AM	51.7	65.5	52.7	50.8
2/5/2014 4:23:00 AM	51.5	64.0	52.3	50.7
2/5/2014 4:24:00 AM	52.8	69.2	56.8	50.2
2/5/2014 4:25:00 AM	51.8	68.2	55.0	50.2
2/5/2014 4:26:00 AM	51.9	68.3	55.0	50.4
2/5/2014 4:27:00 AM	51.0	65.1	52.8	49.5
2/5/2014 4:28:00 AM	52.2	73.6	59.2	50.3
2/5/2014 4:29:00 AM	51.9	67.7	54.6	50.5
2/5/2014 4:30:00 AM	52.1	66.5	54.8	50.6
2/5/2014 4:31:00 AM	51.8	65.4	53.9	50.6
2/5/2014 4:32:00 AM	52.0	65.4	53.5	50.9
2/5/2014 4:33:00 AM	51.6	65.6	53.2	50.7
2/5/2014 4:34:00 AM	51.5	65.6	53.7	50.3
2/5/2014 4:35:00 AM	52.3	67.4	55.7	50.7
2/5/2014 4:36:00 AM	52.9	67.1	55.9	51.2
2/5/2014 4:37:00 AM	53.2	71.0	60.1	51.1
2/5/2014 4:38:00 AM	53.4	71.3	59.9	51.3
2/5/2014 4:39:00 AM	51.7	65.4	53.3	50.2
2/5/2014 4:40:00 AM	53.5	69.1	57.9	50.6
2/5/2014 4:41:00 AM	52.8	67.9	56.0	51.1
2/5/2014 4:42:00 AM	52.7	70.5	56.8	51.0
2/5/2014 4:43:00 AM	51.6	65.6	52.8	50.6
2/5/2014 4:44:00 AM	52.5	69.2	57.2	51.0
2/5/2014 4:45:00 AM	51.7	65.1	52.9	50.6
2/5/2014 4:46:00 AM	52.3	66.5	54.1	51.1
2/5/2014 4:47:00 AM	53.1	69.1	57.1	50.7
2/5/2014 4:48:00 AM	52.8	68.4	56.5	51.1
2/5/2014 4:49:00 AM	53.0	69.6	56.3	51.9
2/5/2014 4:50:00 AM	54.1	71.8	58.7	52.4
2/5/2014 4:51:00 AM	53.6	76.1	58.9	52.2
2/5/2014 4:52:00 AM	53.3	69.2	56.5	52.0

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 4:53:00 AM	52.7	65.7	54.3	51.4
2/5/2014 4:54:00 AM	57.0	77.9	68.1	51.0
2/5/2014 4:55:00 AM	53.1	69.9	57.4	50.8
2/5/2014 4:56:00 AM	52.6	70.2	57.3	51.2
2/5/2014 4:57:00 AM	52.3	67.9	56.1	51.0
2/5/2014 4:58:00 AM	53.1	67.6	55.7	51.1
2/5/2014 4:59:00 AM	52.8	67.2	55.0	51.8
2/5/2014 5:00:00 AM	52.6	65.9	53.7	51.6
2/5/2014 5:01:00 AM	53.7	70.4	57.7	51.7
2/5/2014 5:02:00 AM	53.4	69.2	56.3	51.5
2/5/2014 5:03:00 AM	52.5	66.6	54.3	51.2
2/5/2014 5:04:00 AM	52.6	65.5	53.5	51.7
2/5/2014 5:05:00 AM	52.9	67.1	55.0	51.9
2/5/2014 5:06:00 AM	53.0	68.6	55.3	51.6
2/5/2014 5:07:00 AM	53.0	68.2	56.0	51.9
2/5/2014 5:08:00 AM	54.1	70.1	57.4	52.0
2/5/2014 5:09:00 AM	54.0	71.1	59.9	52.2
2/5/2014 5:10:00 AM	54.3	69.3	57.4	52.3
2/5/2014 5:11:00 AM	54.6	80.3	64.6	52.8
2/5/2014 5:12:00 AM	54.1	68.5	56.5	52.3
2/5/2014 5:13:00 AM	53.5	67.0	56.2	52.3
2/5/2014 5:14:00 AM	53.9	67.5	55.3	52.3
2/5/2014 5:15:00 AM	55.0	72.2	58.2	53.5
2/5/2014 5:16:00 AM	54.7	69.2	57.2	53.3
2/5/2014 5:17:00 AM	55.2	70.4	58.7	53.6
2/5/2014 5:18:00 AM	54.5	69.0	56.3	53.4
2/5/2014 5:19:00 AM	54.2	69.7	57.1	52.6
2/5/2014 5:20:00 AM	54.7	74.3	60.3	52.3
2/5/2014 5:21:00 AM	52.8	67.6	54.8	51.3
2/5/2014 5:22:00 AM	53.1	73.6	59.0	51.2
2/5/2014 5:23:00 AM	53.7	69.6	57.8	51.4
2/5/2014 5:24:00 AM	52.6	67.5	54.2	51.5
2/5/2014 5:25:00 AM	53.8	74.6	58.2	51.4
2/5/2014 5:26:00 AM	54.0	73.2	59.5	52.2
2/5/2014 5:27:00 AM	53.3	67.4	55.7	51.9
2/5/2014 5:28:00 AM	54.2	74.8	58.9	51.6
2/5/2014 5:29:00 AM	55.1	73.2	60.4	51.3
2/5/2014 5:30:00 AM	55.6	79.2	65.4	52.5
2/5/2014 5:31:00 AM	54.6	70.4	58.1	52.2
2/5/2014 5:32:00 AM	53.8	69.2	56.3	51.6
2/5/2014 5:33:00 AM	57.0	79.8	69.4	51.4
2/5/2014 5:34:00 AM	68.7	97.4	86.1	52.4
2/5/2014 5:35:00 AM	54.2	71.6	59.5	51.6
2/5/2014 5:36:00 AM	53.4	67.7	56.1	51.4
2/5/2014 5:37:00 AM	54.5	69.9	57.4	52.0
2/5/2014 5:38:00 AM	54.8	70.9	58.4	52.4
2/5/2014 5:39:00 AM	56.6	72.5	62.4	52.5
2/5/2014 5:40:00 AM	55.0	72.0	57.8	52.9
2/5/2014 5:41:00 AM	55.9	74.2	59.8	52.4
2/5/2014 5:42:00 AM	54.2	69.6	57.7	52.0
2/5/2014 5:43:00 AM	53.8	70.1	57.0	51.7
2/5/2014 5:44:00 AM	57.1	77.8	65.6	53.1
2/5/2014 5:45:00 AM	57.1	78.9	66.3	53.1
2/5/2014 5:46:00 AM	55.0	71.6	58.8	53.2
2/5/2014 5:47:00 AM	55.8	71.1	58.6	53.7
2/5/2014 5:48:00 AM	56.9	76.6	64.4	52.8
2/5/2014 5:49:00 AM	55.1	71.6	58.8	52.9
2/5/2014 5:50:00 AM	56.2	74.1	60.2	52.0
2/5/2014 5:51:00 AM	54.5	70.8	59.5	51.9
2/5/2014 5:52:00 AM	53.8	68.2	56.4	52.5
2/5/2014 5:53:00 AM	56.1	72.1	60.4	53.4
2/5/2014 5:54:00 AM	56.7	73.5	61.2	53.9
2/5/2014 5:55:00 AM	54.7	70.6	58.1	52.9
2/5/2014 5:56:00 AM	56.9	74.7	62.8	54.1
2/5/2014 5:57:00 AM	56.1	71.6	59.7	54.0
2/5/2014 5:58:00 AM	55.6	70.4	58.4	53.9
2/5/2014 5:59:00 AM	56.4	79.4	64.5	54.5
2/5/2014 6:00:00 AM	56.0	71.9	58.4	54.3
2/5/2014 6:01:00 AM	55.4	70.0	57.8	53.7
2/5/2014 6:02:00 AM	56.3	72.5	61.4	53.7
2/5/2014 6:03:00 AM	56.8	71.9	59.5	53.9
2/5/2014 6:04:00 AM	56.3	72.6	59.9	53.2
2/5/2014 6:05:00 AM	55.2	75.0	59.9	53.0
2/5/2014 6:06:00 AM	54.8	68.9	57.3	53.0
2/5/2014 6:07:00 AM	54.9	71.9	59.3	52.5
2/5/2014 6:08:00 AM	56.3	72.9	60.2	53.5
2/5/2014 6:09:00 AM	57.1	73.5	61.2	53.9

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 6:10:00 AM	59.8	73.7	61.0	58.8
2/5/2014 6:11:00 AM	59.7	74.5	61.6	58.2
2/5/2014 6:12:00 AM	60.1	74.8	62.6	57.5
2/5/2014 6:13:00 AM	59.5	77.3	64.1	57.5
2/5/2014 6:14:00 AM	57.7	72.2	59.1	56.4
2/5/2014 6:15:00 AM	58.9	73.8	61.0	57.3
2/5/2014 6:16:00 AM	58.5	73.6	60.6	57.2
2/5/2014 6:17:00 AM	59.6	74.0	61.1	57.7
2/5/2014 6:18:00 AM	59.4	73.2	60.6	58.3
2/5/2014 6:19:00 AM	60.5	75.5	62.4	58.3
2/5/2014 6:20:00 AM	59.4	72.8	60.5	58.4
2/5/2014 6:21:00 AM	60.9	75.2	63.0	59.3
2/5/2014 6:22:00 AM	60.3	74.7	62.0	59.2
2/5/2014 6:23:00 AM	60.2	74.6	61.8	58.8
2/5/2014 6:24:00 AM	59.5	73.4	60.9	58.3
2/5/2014 6:25:00 AM	60.1	75.4	63.0	58.4
2/5/2014 6:26:00 AM	59.6	74.0	60.8	58.6
2/5/2014 6:27:00 AM	60.9	75.8	63.7	58.8
2/5/2014 6:28:00 AM	60.7	75.2	62.7	59.0
2/5/2014 6:29:00 AM	60.7	76.0	62.9	59.5
2/5/2014 6:30:00 AM	60.8	75.0	62.6	59.4
2/5/2014 6:31:00 AM	62.3	80.0	67.8	59.5
2/5/2014 6:32:00 AM	69.2	95.6	83.8	59.8
2/5/2014 6:33:00 AM	61.7	82.0	68.5	59.6
2/5/2014 6:34:00 AM	60.4	75.6	63.7	59.1
2/5/2014 6:35:00 AM	60.1	75.4	61.7	58.6
2/5/2014 6:36:00 AM	60.6	79.0	62.7	59.1
2/5/2014 6:37:00 AM	61.7	77.0	64.0	59.6
2/5/2014 6:38:00 AM	60.6	74.4	62.0	59.6
2/5/2014 6:39:00 AM	61.3	75.7	62.8	59.4
2/5/2014 6:40:00 AM	61.3	75.5	63.0	59.9
2/5/2014 6:41:00 AM	61.5	76.1	63.4	59.9
2/5/2014 6:42:00 AM	61.5	75.7	63.3	59.5
2/5/2014 6:43:00 AM	62.6	78.5	67.6	60.1
2/5/2014 6:44:00 AM	62.1	78.5	67.4	60.2
2/5/2014 6:45:00 AM	62.6	79.0	66.4	60.6
2/5/2014 6:46:00 AM	61.6	75.2	63.2	60.0
2/5/2014 6:47:00 AM	62.5	77.3	64.6	60.8
2/5/2014 6:48:00 AM	62.1	77.3	64.6	60.4
2/5/2014 6:49:00 AM	62.8	78.7	66.5	60.7
2/5/2014 6:50:00 AM	61.8	76.7	63.8	60.4
2/5/2014 6:51:00 AM	62.1	76.3	63.9	60.1
2/5/2014 6:52:00 AM	61.4	75.6	62.7	60.2
2/5/2014 6:53:00 AM	62.0	76.4	63.6	60.3
2/5/2014 6:54:00 AM	62.9	77.9	64.9	61.2
2/5/2014 6:55:00 AM	62.5	77.3	63.7	60.9
2/5/2014 6:56:00 AM	62.0	76.2	63.2	60.7
2/5/2014 6:57:00 AM	63.1	78.1	65.7	60.9
2/5/2014 6:58:00 AM	62.3	77.1	65.0	60.9
2/5/2014 6:59:00 AM	62.7	77.2	64.3	61.0
2/5/2014 7:00:00 AM	62.9	82.0	69.1	61.0
2/5/2014 7:01:00 AM	63.0	78.1	65.0	61.2
2/5/2014 7:02:00 AM	62.4	77.8	63.6	61.2
2/5/2014 7:03:00 AM	63.6	78.4	65.4	61.0
2/5/2014 7:04:00 AM	62.4	79.3	66.9	61.0
2/5/2014 7:05:00 AM	62.3	77.1	64.4	60.8
2/5/2014 7:06:00 AM	62.3	76.2	64.3	60.9
2/5/2014 7:07:00 AM	62.4	77.3	63.9	61.1
2/5/2014 7:08:00 AM	62.6	81.8	70.5	60.4
2/5/2014 7:09:00 AM	69.9	97.7	86.1	60.8
2/5/2014 7:10:00 AM	61.3	75.3	62.7	59.6
2/5/2014 7:11:00 AM	61.3	75.8	63.3	60.0
2/5/2014 7:12:00 AM	61.8	77.5	63.9	60.2
2/5/2014 7:13:00 AM	62.3	76.4	63.9	60.7
2/5/2014 7:14:00 AM	61.5	76.3	63.2	60.1
2/5/2014 7:15:00 AM	62.7	78.3	64.9	60.3
2/5/2014 7:16:00 AM	61.7	77.0	63.1	60.3
2/5/2014 7:17:00 AM	62.6	92.2	78.0	60.7
2/5/2014 7:18:00 AM	62.6	77.1	63.9	61.2
2/5/2014 7:19:00 AM	63.2	77.8	66.0	61.4
2/5/2014 7:20:00 AM	61.9	76.9	64.6	60.3
2/5/2014 7:21:00 AM	62.4	76.1	63.8	61.0
2/5/2014 7:22:00 AM	62.2	76.8	63.8	60.7
2/5/2014 7:23:00 AM	62.7	78.1	65.0	61.2
2/5/2014 7:24:00 AM	62.1	76.8	63.7	60.6
2/5/2014 7:25:00 AM	62.7	80.4	67.8	60.7
2/5/2014 7:26:00 AM	61.4	75.9	63.5	60.1

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 7:27:00 AM	62.1	77.6	64.8	59.9
2/5/2014 7:28:00 AM	61.5	75.9	63.0	60.0
2/5/2014 7:29:00 AM	62.6	78.7	65.9	61.3
2/5/2014 7:30:00 AM	62.2	76.5	63.4	60.9
2/5/2014 7:31:00 AM	62.5	77.3	65.4	60.2
2/5/2014 7:32:00 AM	62.0	76.2	63.7	60.7
2/5/2014 7:33:00 AM	62.8	77.9	64.8	60.7
2/5/2014 7:34:00 AM	62.1	76.2	63.6	60.7
2/5/2014 7:35:00 AM	62.8	77.3	64.2	61.8
2/5/2014 7:36:00 AM	62.4	76.3	63.8	59.9
2/5/2014 7:37:00 AM	62.8	79.2	66.0	60.7
2/5/2014 7:38:00 AM	61.8	76.2	63.9	60.0
2/5/2014 7:39:00 AM	76.0	100.9	89.8	60.2
2/5/2014 7:40:00 AM	61.9	76.2	63.5	60.1
2/5/2014 7:41:00 AM	63.1	84.0	70.1	61.1
2/5/2014 7:42:00 AM	62.6	77.1	64.9	61.4
2/5/2014 7:43:00 AM	62.8	80.3	67.3	60.1
2/5/2014 7:44:00 AM	62.2	77.1	64.4	60.5
2/5/2014 7:45:00 AM	62.7	77.1	64.9	60.5
2/5/2014 7:46:00 AM	61.9	76.4	63.3	60.4
2/5/2014 7:47:00 AM	62.6	76.8	64.2	61.2
2/5/2014 7:48:00 AM	62.4	76.4	64.5	60.3
2/5/2014 7:49:00 AM	62.7	80.4	66.9	61.0
2/5/2014 7:50:00 AM	62.6	91.8	75.1	60.3
2/5/2014 7:51:00 AM	69.1	96.5	84.8	60.8
2/5/2014 7:52:00 AM	61.5	76.5	63.6	59.5
2/5/2014 7:53:00 AM	62.8	81.1	67.1	60.5
2/5/2014 7:54:00 AM	62.4	77.5	64.4	61.0
2/5/2014 7:55:00 AM	62.4	76.8	64.0	60.1
2/5/2014 7:56:00 AM	62.3	78.1	65.3	60.9
2/5/2014 7:57:00 AM	60.1	78.9	64.1	54.4
2/5/2014 7:58:00 AM	57.4	73.6	61.4	54.1
2/5/2014 7:59:00 AM	58.2	73.4	60.8	53.7
2/5/2014 8:00:00 AM	56.1	72.0	59.8	52.5
2/5/2014 8:01:00 AM	57.4	73.4	60.5	53.9
2/5/2014 8:02:00 AM	57.0	73.1	60.3	52.8
2/5/2014 8:03:00 AM	61.6	89.8	73.0	53.1
2/5/2014 8:04:00 AM	56.6	73.3	60.7	52.6
2/5/2014 8:05:00 AM	58.5	82.5	66.2	53.9
2/5/2014 8:06:00 AM	60.3	90.1	76.8	55.8
2/5/2014 8:07:00 AM	60.0	85.9	73.1	54.0
2/5/2014 8:08:00 AM	75.8	104.4	91.8	53.7
2/5/2014 8:09:00 AM	57.6	73.6	61.2	53.5
2/5/2014 8:10:00 AM	56.9	72.3	59.9	54.0
2/5/2014 8:11:00 AM	58.0	73.5	61.4	55.3
2/5/2014 8:12:00 AM	58.9	80.3	64.8	53.7
2/5/2014 8:13:00 AM	59.4	79.1	67.0	53.5
2/5/2014 8:14:00 AM	56.7	72.7	59.7	53.2
2/5/2014 8:15:00 AM	56.8	73.1	60.6	52.3
2/5/2014 8:16:00 AM	55.4	70.9	59.0	52.1
2/5/2014 8:17:00 AM	57.2	73.4	60.4	54.2
2/5/2014 8:18:00 AM	56.2	71.3	59.0	53.0
2/5/2014 8:19:00 AM	58.0	73.0	61.1	54.1
2/5/2014 8:20:00 AM	56.8	72.1	59.6	52.7
2/5/2014 8:21:00 AM	58.7	74.5	62.2	52.9
2/5/2014 8:22:00 AM	85.1	110.6	98.7	52.9
2/5/2014 8:23:00 AM	59.2	77.4	65.9	55.3
2/5/2014 8:24:00 AM	56.3	71.0	58.9	53.3
2/5/2014 8:25:00 AM	57.1	72.0	59.7	54.2
2/5/2014 8:26:00 AM	57.3	73.2	60.4	53.4
2/5/2014 8:27:00 AM	57.9	74.1	61.7	53.1
2/5/2014 8:28:00 AM	56.7	72.5	59.7	53.9
2/5/2014 8:29:00 AM	58.7	87.0	72.0	55.7
2/5/2014 8:30:00 AM	67.6	94.9	83.9	54.5
2/5/2014 8:31:00 AM	61.8	82.1	69.5	56.5
2/5/2014 8:32:00 AM	56.0	72.1	59.4	52.5
2/5/2014 8:33:00 AM	56.2	71.1	59.3	52.2
2/5/2014 8:34:00 AM	56.6	72.3	60.0	53.6
2/5/2014 8:35:00 AM	58.0	73.2	61.3	55.1
2/5/2014 8:36:00 AM	57.4	72.9	60.6	54.0
2/5/2014 8:37:00 AM	57.2	73.6	62.7	53.6
2/5/2014 8:38:00 AM	56.5	72.0	59.1	53.2
2/5/2014 8:39:00 AM	57.5	73.4	61.6	52.6
2/5/2014 8:40:00 AM	56.5	71.6	60.4	52.8
2/5/2014 8:41:00 AM	61.8	84.6	71.4	55.6
2/5/2014 8:42:00 AM	56.5	72.5	62.0	52.5
2/5/2014 8:43:00 AM	57.3	72.5	60.5	52.0

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 8:44:00 AM	56.0	76.8	61.3	52.8
2/5/2014 8:45:00 AM	57.4	72.5	60.8	53.0
2/5/2014 8:46:00 AM	56.6	73.6	60.7	52.8
2/5/2014 8:47:00 AM	57.1	78.5	64.5	53.9
2/5/2014 8:48:00 AM	56.7	72.8	61.0	53.2
2/5/2014 8:49:00 AM	57.5	77.1	63.1	53.8
2/5/2014 8:50:00 AM	56.3	70.9	59.5	53.9
2/5/2014 8:51:00 AM	57.3	74.1	62.5	54.1
2/5/2014 8:52:00 AM	55.5	74.1	60.9	53.0
2/5/2014 8:53:00 AM	57.6	74.3	62.9	53.1
2/5/2014 8:54:00 AM	57.7	76.3	63.8	53.4
2/5/2014 8:55:00 AM	56.7	73.3	60.4	53.1
2/5/2014 8:56:00 AM	57.5	83.1	67.1	52.4
2/5/2014 8:57:00 AM	55.5	70.5	58.8	52.4
2/5/2014 8:58:00 AM	69.8	95.3	84.7	52.6
2/5/2014 8:59:00 AM	57.4	75.8	61.7	53.4
2/5/2014 9:00:00 AM	56.5	74.2	60.6	51.7
2/5/2014 9:01:00 AM	56.9	74.4	61.1	52.1
2/5/2014 9:02:00 AM	56.8	78.4	65.3	51.9
2/5/2014 9:03:00 AM	56.8	82.3	67.9	52.6
2/5/2014 9:04:00 AM	56.0	72.6	59.9	53.1
2/5/2014 9:05:00 AM	56.4	74.9	60.9	52.6
2/5/2014 9:06:00 AM	60.6	85.5	74.7	52.9
2/5/2014 9:07:00 AM	61.5	84.7	71.2	55.2
2/5/2014 9:08:00 AM	55.3	73.4	59.6	52.7
2/5/2014 9:09:00 AM	59.5	76.7	65.1	53.2
2/5/2014 9:10:00 AM	61.9	84.0	70.6	55.5
2/5/2014 9:11:00 AM	56.7	74.2	62.0	52.8
2/5/2014 9:12:00 AM	56.1	80.8	63.8	51.7
2/5/2014 9:13:00 AM	55.8	76.2	62.3	50.7
2/5/2014 9:14:00 AM	54.9	70.5	59.1	51.6
2/5/2014 9:15:00 AM	56.8	78.4	64.4	52.4
2/5/2014 9:16:00 AM	54.1	70.7	58.8	51.4
2/5/2014 9:17:00 AM	55.0	71.1	59.3	51.3
2/5/2014 9:18:00 AM	54.8	74.1	60.9	51.0
2/5/2014 9:19:00 AM	55.0	73.3	59.3	51.2
2/5/2014 9:20:00 AM	55.1	72.1	59.4	52.2
2/5/2014 9:21:00 AM	56.0	72.7	61.2	51.9
2/5/2014 9:22:00 AM	53.6	71.3	58.1	51.1
2/5/2014 9:23:00 AM	56.3	74.0	61.1	51.7
2/5/2014 9:24:00 AM	55.6	72.9	60.2	51.0
2/5/2014 9:25:00 AM	56.4	79.7	65.1	51.1
2/5/2014 9:26:00 AM	54.7	71.1	58.6	52.0
2/5/2014 9:27:00 AM	55.4	72.5	59.7	52.0
2/5/2014 9:28:00 AM	54.4	73.2	59.1	51.3
2/5/2014 9:29:00 AM	56.0	71.9	60.3	52.8
2/5/2014 9:30:00 AM	55.6	73.2	60.3	52.5
2/5/2014 9:31:00 AM	55.7	72.7	60.0	52.4
2/5/2014 9:32:00 AM	55.1	72.2	59.5	51.8
2/5/2014 9:33:00 AM	57.1	78.5	63.8	52.5
2/5/2014 9:34:00 AM	55.4	71.6	59.2	52.1
2/5/2014 9:35:00 AM	55.5	72.2	60.7	51.5
2/5/2014 9:36:00 AM	57.4	80.9	66.3	53.1
2/5/2014 9:37:00 AM	56.5	74.0	62.4	52.7
2/5/2014 9:38:00 AM	57.3	76.0	63.1	53.1
2/5/2014 9:39:00 AM	56.5	72.0	60.5	53.1
2/5/2014 9:40:00 AM	55.1	74.2	59.8	52.1
2/5/2014 9:41:00 AM	56.1	79.2	66.8	51.5
2/5/2014 9:42:00 AM	55.1	72.3	59.1	51.2
2/5/2014 9:43:00 AM	54.7	70.7	58.5	51.0
2/5/2014 9:44:00 AM	53.8	70.9	58.5	50.6
2/5/2014 9:45:00 AM	55.4	75.4	63.2	51.9
2/5/2014 9:46:00 AM	56.1	75.2	63.9	51.0
2/5/2014 9:47:00 AM	55.5	71.9	59.6	52.0
2/5/2014 9:48:00 AM	55.2	70.9	59.1	51.0
2/5/2014 9:49:00 AM	55.1	72.4	59.4	51.9
2/5/2014 9:50:00 AM	53.5	79.4	61.4	50.9
2/5/2014 9:51:00 AM	56.5	72.1	61.0	52.3
2/5/2014 9:52:00 AM	56.1	78.2	64.9	51.7
2/5/2014 9:53:00 AM	56.4	74.5	61.3	50.3
2/5/2014 9:54:00 AM	56.7	71.6	59.2	50.1
2/5/2014 9:55:00 AM	58.0	73.8	62.0	54.7
2/5/2014 9:56:00 AM	55.4	70.3	57.4	53.1
2/5/2014 9:57:00 AM	56.3	72.1	59.9	53.0
2/5/2014 9:58:00 AM	55.1	70.2	57.2	52.0
2/5/2014 9:59:00 AM	56.4	72.3	60.7	53.5
2/5/2014 10:00:00 AM	84.6	111.1	99.9	52.9

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 10:01:00 AM	57.8	77.9	64.6	54.1
2/5/2014 10:02:00 AM	55.8	76.8	62.7	51.5
2/5/2014 10:03:00 AM	55.3	70.9	58.2	52.0
2/5/2014 10:04:00 AM	55.0	70.0	57.6	52.9
2/5/2014 10:05:00 AM	56.3	70.6	58.8	54.1
2/5/2014 10:06:00 AM	55.5	70.3	58.4	53.0
2/5/2014 10:07:00 AM	56.9	74.8	62.8	52.8
2/5/2014 10:08:00 AM	55.5	71.2	58.1	52.3
2/5/2014 10:09:00 AM	55.6	71.1	59.5	51.3
2/5/2014 10:10:00 AM	55.7	82.1	65.5	53.4
2/5/2014 10:11:00 AM	55.8	72.2	60.0	53.3
2/5/2014 10:12:00 AM	57.3	85.2	70.0	54.1
2/5/2014 10:13:00 AM	55.9	71.2	58.3	53.4
2/5/2014 10:14:00 AM	57.0	71.0	58.9	54.3
2/5/2014 10:15:00 AM	56.0	70.9	58.9	52.8
2/5/2014 10:16:00 AM	57.5	73.3	61.0	54.2
2/5/2014 10:17:00 AM	57.1	71.6	59.9	54.8
2/5/2014 10:18:00 AM	56.7	71.4	58.7	54.3
2/5/2014 10:19:00 AM	56.7	71.7	59.4	53.8
2/5/2014 10:20:00 AM	57.2	74.0	62.3	53.9
2/5/2014 10:21:00 AM	57.3	80.5	64.6	55.1
2/5/2014 10:22:00 AM	57.1	74.6	62.5	54.0
2/5/2014 10:23:00 AM	64.3	90.3	75.0	55.8
2/5/2014 10:24:00 AM	56.6	71.2	58.8	54.2
2/5/2014 10:25:00 AM	57.0	72.8	60.0	53.9
2/5/2014 10:26:00 AM	55.8	72.1	58.3	52.9
2/5/2014 10:27:00 AM	56.4	72.4	58.9	54.0
2/5/2014 10:28:00 AM	57.8	72.3	61.2	55.6
2/5/2014 10:29:00 AM	55.7	70.3	58.4	53.4
2/5/2014 10:30:00 AM	55.6	70.5	58.4	52.8
2/5/2014 10:31:00 AM	56.5	75.8	65.6	52.4
2/5/2014 10:32:00 AM	55.3	70.8	58.8	52.8
2/5/2014 10:33:00 AM	55.8	71.1	58.8	52.8
2/5/2014 10:34:00 AM	73.3	99.6	88.5	53.5
2/5/2014 10:35:00 AM	56.9	75.8	62.2	52.8
2/5/2014 10:36:00 AM	56.1	74.8	60.9	53.0
2/5/2014 10:37:00 AM	55.6	72.3	59.5	52.4
2/5/2014 10:38:00 AM	55.2	73.4	60.5	52.4
2/5/2014 10:39:00 AM	56.7	71.5	59.3	53.5
2/5/2014 10:40:00 AM	55.4	70.3	59.3	52.2
2/5/2014 10:41:00 AM	56.3	74.8	61.0	53.7
2/5/2014 10:42:00 AM	55.5	71.0	59.4	52.9
2/5/2014 10:43:00 AM	55.4	71.4	59.0	53.1
2/5/2014 10:44:00 AM	56.1	77.5	63.9	52.5
2/5/2014 10:45:00 AM	57.9	88.7	73.6	52.5
2/5/2014 10:46:00 AM	55.8	76.6	63.3	52.5
2/5/2014 10:47:00 AM	55.4	72.1	59.0	52.8
2/5/2014 10:48:00 AM	56.3	72.5	60.0	54.1
2/5/2014 10:49:00 AM	56.3	72.3	59.6	53.8
2/5/2014 10:50:00 AM	54.6	73.1	59.9	51.4
2/5/2014 10:51:00 AM	54.5	70.4	58.2	51.3
2/5/2014 10:52:00 AM	60.1	89.4	75.5	53.6
2/5/2014 10:53:00 AM	56.5	72.8	61.7	53.5
2/5/2014 10:54:00 AM	57.6	73.9	61.6	54.1
2/5/2014 10:55:00 AM	71.8	99.3	87.8	54.0
2/5/2014 10:56:00 AM	56.5	73.6	61.3	53.4
2/5/2014 10:57:00 AM	58.2	78.3	70.2	54.5
2/5/2014 10:58:00 AM	56.7	72.3	60.4	54.0
2/5/2014 10:59:00 AM	55.9	71.7	59.7	52.8
2/5/2014 11:00:00 AM	54.9	74.8	61.0	52.2
2/5/2014 11:01:00 AM	54.4	73.0	58.0	52.0
2/5/2014 11:02:00 AM	53.8	69.9	57.6	51.5
2/5/2014 11:03:00 AM	54.9	71.4	59.5	52.0
2/5/2014 11:04:00 AM	54.3	70.8	57.9	50.5
2/5/2014 11:05:00 AM	54.6	72.4	59.2	51.3
2/5/2014 11:06:00 AM	57.5	74.8	65.0	50.6
2/5/2014 11:07:00 AM	58.5	73.3	60.5	55.3
2/5/2014 11:08:00 AM	59.1	73.2	61.7	56.5
2/5/2014 11:09:00 AM	58.5	72.8	60.8	56.7
2/5/2014 11:10:00 AM	59.7	74.5	62.2	57.3
2/5/2014 11:11:00 AM	59.4	74.0	61.4	57.7
2/5/2014 11:12:00 AM	59.7	75.2	61.4	58.2
2/5/2014 11:13:00 AM	60.7	75.3	62.8	58.7
2/5/2014 11:14:00 AM	60.6	76.6	63.5	57.5
2/5/2014 11:15:00 AM	61.1	75.5	62.9	59.5
2/5/2014 11:16:00 AM	81.6	108.5	96.4	59.7
2/5/2014 11:17:00 AM	62.3	79.8	69.1	59.4

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 11:18:00 AM	61.1	75.4	63.4	59.4
2/5/2014 11:19:00 AM	61.4	76.5	64.5	59.6
2/5/2014 11:20:00 AM	60.4	79.8	66.5	58.5
2/5/2014 11:21:00 AM	61.6	76.7	64.4	58.8
2/5/2014 11:22:00 AM	60.1	74.2	62.3	57.9
2/5/2014 11:23:00 AM	60.6	75.9	62.1	58.9
2/5/2014 11:24:00 AM	60.5	75.0	62.4	59.0
2/5/2014 11:25:00 AM	60.2	77.8	63.8	58.5
2/5/2014 11:26:00 AM	59.7	74.5	61.1	58.2
2/5/2014 11:27:00 AM	58.9	73.9	60.6	56.9
2/5/2014 11:28:00 AM	59.7	74.0	61.5	57.5
2/5/2014 11:29:00 AM	60.8	76.2	64.2	58.1
2/5/2014 11:30:00 AM	60.6	76.8	63.6	57.8
2/5/2014 11:31:00 AM	60.1	77.7	64.6	57.4
2/5/2014 11:32:00 AM	73.5	104.3	92.8	56.8
2/5/2014 11:33:00 AM	59.3	74.2	61.5	57.5
2/5/2014 11:34:00 AM	58.6	73.2	60.4	56.9
2/5/2014 11:35:00 AM	59.8	74.5	61.9	57.8
2/5/2014 11:36:00 AM	60.2	75.2	63.5	58.3
2/5/2014 11:37:00 AM	60.5	77.8	64.8	56.7
2/5/2014 11:38:00 AM	59.2	76.2	61.7	57.3
2/5/2014 11:39:00 AM	59.2	74.2	61.6	57.0
2/5/2014 11:40:00 AM	59.2	74.1	62.1	55.9
2/5/2014 11:41:00 AM	60.0	74.5	62.2	57.9
2/5/2014 11:42:00 AM	58.2	72.9	60.3	55.4
2/5/2014 11:43:00 AM	60.0	75.2	62.8	57.0
2/5/2014 11:44:00 AM	60.1	74.9	63.1	56.6
2/5/2014 11:45:00 AM	61.7	79.4	65.5	57.4
2/5/2014 11:46:00 AM	61.1	80.5	67.3	58.6
2/5/2014 11:47:00 AM	60.7	76.0	64.0	58.8
2/5/2014 11:48:00 AM	61.5	76.2	64.6	59.3
2/5/2014 11:49:00 AM	58.6	75.9	64.0	51.7
2/5/2014 11:50:00 AM	53.7	69.0	57.0	49.4
2/5/2014 11:51:00 AM	54.4	73.6	58.6	51.1
2/5/2014 11:52:00 AM	53.6	69.4	57.4	50.2
2/5/2014 11:53:00 AM	53.6	71.1	58.2	47.4
2/5/2014 11:54:00 AM	55.3	74.2	59.6	51.8
2/5/2014 11:55:00 AM	55.5	74.7	62.0	50.4
2/5/2014 11:56:00 AM	53.1	70.0	57.8	49.9
2/5/2014 11:57:00 AM	53.1	74.7	60.4	49.6
2/5/2014 11:58:00 AM	53.3	70.3	57.8	49.2
2/5/2014 11:59:00 AM	54.9	83.6	71.0	50.8
2/5/2014 12:00:00 PM	53.2	71.7	58.8	49.9
2/5/2014 12:01:00 PM	56.5	75.5	64.2	51.4
2/5/2014 12:02:00 PM	53.0	72.3	59.6	49.9
2/5/2014 12:03:00 PM	55.1	74.4	59.7	52.3
2/5/2014 12:04:00 PM	63.7	86.9	73.5	50.1
2/5/2014 12:05:00 PM	52.9	68.5	56.2	49.4
2/5/2014 12:06:00 PM	53.3	68.3	56.8	50.6
2/5/2014 12:07:00 PM	53.5	69.7	57.9	49.5
2/5/2014 12:08:00 PM	53.8	73.0	58.4	49.6
2/5/2014 12:09:00 PM	55.4	71.0	59.7	52.3
2/5/2014 12:10:00 PM	56.2	76.0	63.5	50.4
2/5/2014 12:11:00 PM	63.1	86.1	71.3	53.3
2/5/2014 12:12:00 PM	54.5	75.6	58.8	50.9
2/5/2014 12:13:00 PM	55.1	80.0	64.3	51.5
2/5/2014 12:14:00 PM	53.6	72.3	59.1	50.2
2/5/2014 12:15:00 PM	54.8	72.0	60.7	50.6
2/5/2014 12:16:00 PM	54.2	70.7	57.8	51.1
2/5/2014 12:17:00 PM	54.3	77.0	62.2	51.1
2/5/2014 12:18:00 PM	53.2	70.8	57.4	50.4
2/5/2014 12:19:00 PM	53.6	69.6	58.0	50.6
2/5/2014 12:20:00 PM	54.8	71.3	59.4	51.3
2/5/2014 12:21:00 PM	55.0	72.4	60.1	50.8
2/5/2014 12:22:00 PM	54.2	71.3	59.5	50.1
2/5/2014 12:23:00 PM	55.3	71.1	60.4	51.7
2/5/2014 12:24:00 PM	54.2	70.8	59.3	51.0
2/5/2014 12:25:00 PM	56.3	75.5	65.0	52.1
2/5/2014 12:26:00 PM	56.0	74.5	64.4	51.9
2/5/2014 12:27:00 PM	54.9	71.5	58.9	51.2
2/5/2014 12:28:00 PM	55.9	79.2	66.2	49.6
2/5/2014 12:29:00 PM	53.7	81.8	66.6	47.6
2/5/2014 12:30:00 PM	55.5	84.9	70.4	47.3
2/5/2014 12:31:00 PM	53.3	69.1	58.5	48.8
2/5/2014 12:32:00 PM	56.9	74.8	62.4	50.2
2/5/2014 12:33:00 PM	61.0	75.9	63.3	58.2
2/5/2014 12:34:00 PM	61.0	76.1	62.8	59.1

Logged Data Table (cont'd)

Timestamp	Leq-1	Lpk-1	Lmax-1	Lmin-1
2/5/2014 12:35:00 PM	60.6	75.2	63.1	58.3
2/5/2014 12:36:00 PM	61.4	80.7	67.9	59.4
2/5/2014 12:37:00 PM	59.6	74.8	62.2	57.6
2/5/2014 12:38:00 PM	59.7	75.3	62.5	57.7
2/5/2014 12:39:00 PM	61.4	76.3	63.6	59.6
2/5/2014 12:40:00 PM	61.4	77.3	65.4	59.0
2/5/2014 12:41:00 PM	61.6	83.9	71.5	58.6
2/5/2014 12:42:00 PM	60.9	75.0	62.5	59.3
2/5/2014 12:43:00 PM	60.6	75.0	62.9	58.8
2/5/2014 12:44:00 PM	61.2	75.7	63.4	59.1
2/5/2014 12:45:00 PM	61.4	77.1	64.0	58.8
2/5/2014 12:46:00 PM	61.0	75.5	63.6	58.8
2/5/2014 12:47:00 PM	62.6	80.0	67.9	59.4
2/5/2014 12:48:00 PM	62.1	77.2	65.0	59.4
2/5/2014 12:49:00 PM	62.8	79.1	65.5	59.9
2/5/2014 12:50:00 PM	63.1	77.4	66.1	59.8
2/5/2014 12:51:00 PM	64.1	83.4	71.1	59.6
2/5/2014 12:52:00 PM	65.2	81.5	68.9	62.8
2/5/2014 12:53:00 PM	64.1	88.4	73.4	61.5
2/5/2014 12:54:00 PM	63.5	79.4	66.1	60.6
2/5/2014 12:55:00 PM	63.9	78.8	66.2	61.5
2/5/2014 12:56:00 PM	63.2	77.6	65.8	59.9
2/5/2014 12:57:00 PM	62.2	76.5	64.8	60.3
2/5/2014 12:58:00 PM	63.6	84.8	74.4	59.6
2/5/2014 12:59:00 PM	62.6	81.6	68.0	59.3

General Data Panel

Description	Meter	Value	Description	Meter	Value
Lmin	1	38.6 dB	Lmax	1	99.9 dB
Lpk	1	111.9 dB	Leq	1	63.3 dB
CNEL	1	65.6 dB	SEL	1	112.6 dB