Appendix A

Air Quality Assessment

Waterman Gardens Master Plan Project

Air Quality Assessment

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July 2011

SUMMARY

The air quality assessment for the proposed Waterman Gardens Master Plan Project ("project" or "proposed project"), located at the intersection of Waterman Avenue and Base Line Street in the City of San Bernardino, California, was prepared in accordance with the South Coast Air Quality Management District's (SCAQMD) *California Environmental Quality Act (CEQA) Air Quality Handbook*[1] and other guidance provided by the SCAQMD. The proposed project includes the redevelopment and new construction of a comprehensive mixed-use and mixed-income development with residential and community recreational-oriented uses to provide affordable housing to the residents of the City of San Bernardino. Construction of the proposed project would occur in several phases and would begin in 2013 and is estimated to last until 2022.

The impacts associated with construction and operation of the proposed project were compared to the thresholds of significance established by the SCAQMD. Thresholds of significance during project construction are based on mass daily emission thresholds for volatile reactive organic compounds (VOCs), oxides of nitrogen (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter less than 10 microns in diameter (PM10), and fine particulate matter less than 2.5 microns in diameter (PM2.5). Thresholds of significance during project operation are based on mass daily emission thresholds for the air pollutants described above. In addition, the SCAQMD has promulgated localized significance thresholds (LSTs) that identify local ambient air impacts during project construction and operation for nitrogen dioxide (NO_2), CO, PM10, and PM2.5. In addition, the SCAQMD requires an evaluation of the project's impact on local CO concentrations near impacted intersections and roadways.

Based on the results of the air quality assessment, construction and operation of the proposed project would not exceed the emissions thresholds for the pollutants analyzed above. The project would also not exceed the localized significance thresholds established in the SCAQMD *Final Localized Significance Threshold Methodology*[2] ("LST Methodology") and would not lead to the formation of CO "hotspots" due to project-related vehicular traffic. Furthermore, the proposed project would not result in an odor nuisance and would not emit substantial toxic air contaminants (TACs) that would exceed health-based standards. For these reasons, the proposed project would result in less-than-significant impact to air quality.

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1 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993).

2 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

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1.0 INTRODUCTION

The proposed Waterman Gardens Master Plan Project ("project" or "proposed project") is located at the intersection of Waterman Avenue and Base Line Street in the City of San Bernardino, California. The project site is approximately 38 acres and comprises the San Bernardino Waterman Gardens Public Housing, built in 1943, which includes 252 residential units in 114 buildings (87 single-story duplexes, 24 multi-family townhouses, a management office building, Head Start Facilities, and maintenance facilities).

The proposed project would demolish the existing 252 residential unit development and construct approximately 500 residential units (155 one-bedroom units, 171 two-bedroom units, 158 three-bedroom units, 16 four-bedroom units), a 45,835 square foot recreational facility, a 58,200 square foot community support center, a 4,000 square foot community care facility, a 6,000 square foot Administration and Community room, a 7,000 square foot recycling facility, and a 20,000 square foot shop and youth/jobs training facility.

The project is located in the South Coast Air Basin (Basin), which is a geographical region that shares the same air pollution concerns. The Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties. The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for the Basin. Therefore, this assessment provides an analysis of the project's potential to result in significance air quality impacts based on information contained in the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Handbook*[3] and other guidance provided by the SCAQMD. Additional sources of information are relied upon as cited and discussed in this assessment.

2.0 ENVIRONMENTAL SETTING

2.1 Regional Climate

The project is located in the South Coast Air Basin, which is shown in **Figure 1, South Coast Air Basin**. The Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties. Air quality is affected by both the rate and location of pollutant emissions. Meteorological conditions such as wind speed, wind direction, solar radiation, atmospheric stability, along with local topography heavily influence air quality by affecting the movement and dispersal of pollutants. Predominant meteorological conditions in the

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3 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993).

Basin are light winds and shallow vertical mixing due to low-altitude temperature inversions. These conditions, when coupled with the surrounding mountain ranges, hinder the regional dispersion of air pollutants. The strength and location of a semi-permanent, high-pressure cell over the northern Pacific Ocean is the primary climatological influence on the Basin, as is the ocean, which moderates the local climate by acting like a large heat reservoir. As a result of these influences, warm summers, mild winters, infrequent rainfall and moderate humidity typify climatic conditions through most of the Basin. These meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone (O_3) and urban smog.

Although the climate of the Basin can be characterized as semiarid, the air near the land surface may be moist on some days because of the presence of a marine layer. Humidity restricts visibility in the Basin, also increase the conversion of sulfur dioxide (SO_2) to sulfates. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast. More than 90 percent of the rainfall occurs from November through April. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region near the mountains.

The SCAQMD operates stations in the Basin that monitor meteorological conditions and pollutant concentrations. Wind speeds and directions for the area are taken from the monitoring station located nearest to the project site and are shown in **Figure 2, Wind Rose for Source Receptor Area 34 (Central San Bernardino Valley)**. As shown, predominant winds are from the southwest with lesser winds from the northeast up to 10 miles per hour. The average annual maximum temperature in San Bernardino is 80°F and the average annual minimum is 48°F and the average annual rainfall is 16.12 inches.[4]

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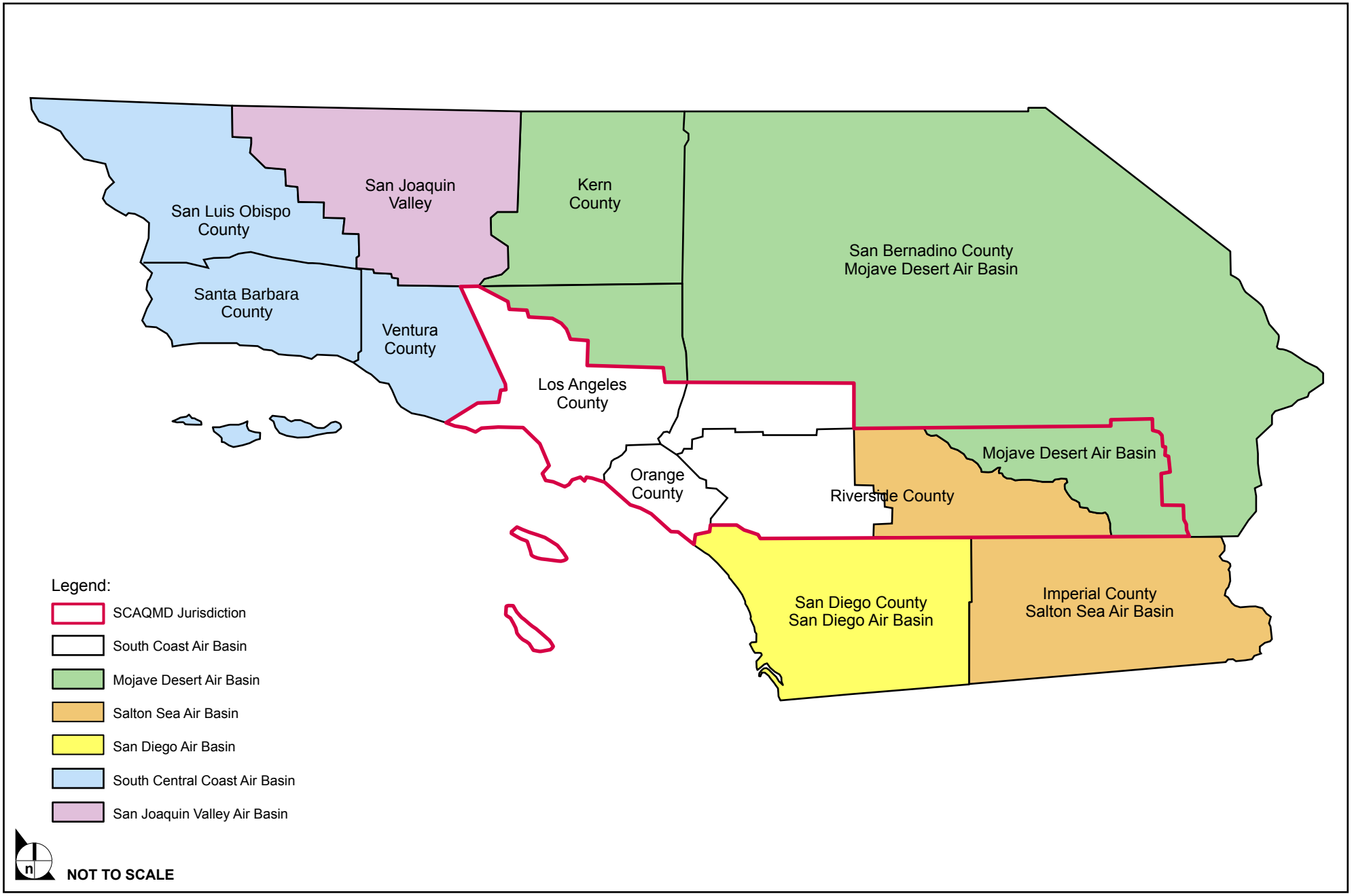
4 Western Regional Climate Center, "San Bernardino (Station 047723)," http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7723. n.d.



SOURCE: Impact Sciences, Inc. – June 2011

FIGURE **1**

South Coast Air Basin

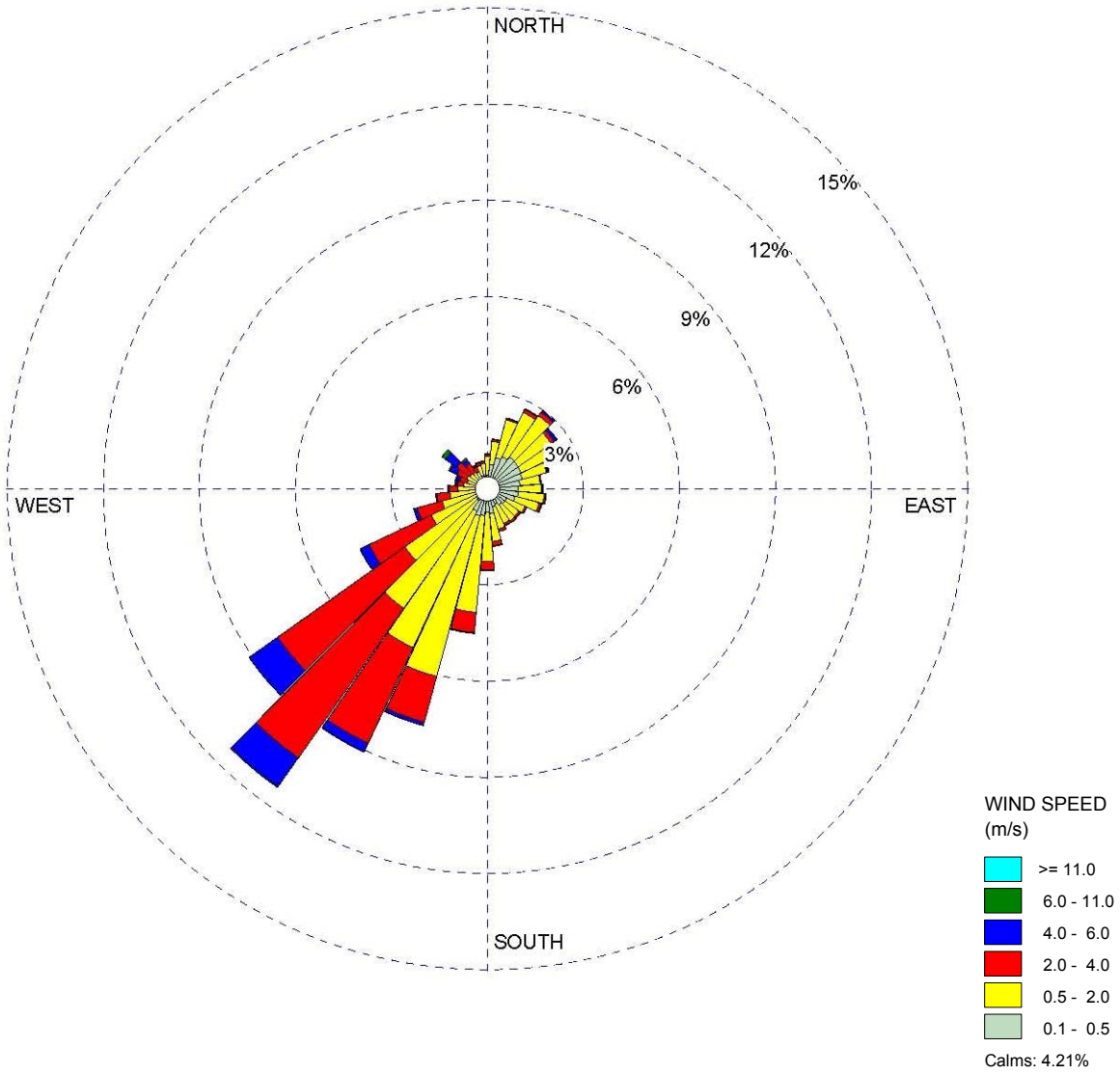
1085-001•06/11

WIND ROSE PLOT:

SAN BERNARDINO MONITORING STATION

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Meteorological Data File from the South Coast Air Quality Management District	**2005-2007** **Jan 1 - Dec 31** **00:00 - 23:00**	**Impact Sciences, Inc.**	
	CALM WINDS: **4.21%**	TOTAL COUNT: **26126 hrs.**	
	AVG. WIND SPEED: **1.44 m/s**	DATE: **1/28/2009**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

SOURCE: South Coast Air Quality Management District – June 2011

FIGURE **2**

Wind Rose for Source Receptor Area 34

1085-001•06/11

2.2 Regional Air Quality

2.2.1 Criteria Air Pollutants

The determination of whether a region's air quality is healthful or unhealthful is evaluated by comparing contaminant levels in ambient air samples to federal and state standards. The United States Environmental Protection Agency (U.S. EPA) and the State of California have adopted health-based air quality standards, referred to as the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for the following seven criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM10), fine particulate matter (PM2.5), and lead (Pb). These standards were established to protect sensitive receptors from adverse health impacts due to exposure to air pollution with a margin of safety. The California standards are generally more stringent than the federal standards and in the case of PM10 and SO_2, much more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide and vinyl chloride, none of which have corresponding federal standards.

The CAAQS and NAAQS for each of the criteria pollutants and their effects on health are summarized in **Table 1, Ambient Air Quality Standards and Health Effects**. **Table 1** also sets forth the state ambient air quality standards and health effects applicable to sulfates, visibility reducing particles, hydrogen sulfide and vinyl chloride, even though such pollutants are generally not applicable to the proposed project.

Table 1
Ambient Air Quality Standards and Health Effects

	Concentration/Averaging Time		
Air Pollutant	**State Standard (CAAQS)**	**Federal Primary Standard (NAAQS)**	**Most Relevant Health Effects**
Ozone[1]	0.09 ppm, 1-hr. avg. 0.070 ppm, 8-hr avg.	0.075 ppm, 8-hr avg. (three-year average of annual 4th-highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage

Air Pollutant	Concentration/Averaging Time: State Standard (CAAQS)	Concentration/Averaging Time: Federal Primary Standard (NAAQS)	Most Relevant Health Effects
Nitrogen Dioxide[1]	0.18 ppm, 1-hr avg. 0.030 ppm, annual arithmetic mean	0.100 ppm, 1-hr avg. (three-year average of the 98th percentile of the daily maximum 1-hour average) 0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Carbon Monoxide	20 ppm, 1-hr avg. 9.0 ppm, 8-hr avg.	35 ppm, 1-hr avg. (not to be exceeded more than once per year) 9 ppm, 8-hr avg. (not to be exceeded more than once per year)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide[2]	0.25 ppm, 1-hr. avg. 0.04 ppm, 24-hr avg.	0.075 ppm, 1-hr avg. (three-year average of the 99th percentile)	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in person with asthma
Respirable Particulate Matter (PM10)	50 μg/m^3, 24-hr avg. 20 μg/m^3, annual arithmetic mean	150 μg/m^3, 24-hr avg. (not to be exceeded more than once per year on average over three years)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Fine Particulate Matter (PM2.5)	12 μg/m^3, annual arithmetic mean	35 μg/m^3, 24-hr avg. (three-year average of 98th percentile) 15 μg/m^3, annual arithmetic mean (three-year average)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Lead[3]	1.5 μg/m^3, 30-day avg.	1.5 μg/m^3, calendar quarter 0.15 μg/m^3, three month rolling average	(a) Increased body burden, and (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70%.

Air Pollutant	Concentration/Averaging Time: State Standard (CAAQS)	Concentration/Averaging Time: Federal Primary Standard (NAAQS)	Most Relevant Health Effects
Sulfates	25 μg/m³, 24-hr avg.	None	(a) Decrease in ventilatory function, (b) Aggravation of asthmatic symptoms, (c) Aggravation of cardio-pulmonary disease, (d) Vegetation damage, (e) Degradation of visibility, and (f) Property damage
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride[3]	0.01 ppm, 24-hr avg.	None	Known carcinogen

Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2007 Air Quality Management Plan, (2007) Table 3.1-1, p. 3.1-3.
μg/m³ = microgram per cubic meter.
ppm = parts per million by volume.

[1] *On January 25, 2010, the U.S. EPA promulgated a new 1-hour NO_2 standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter [μg/m³]) and became effective on April 12, 2010.*

[2] *On June 3, 2010, the U.S. EPA issued a new 1-hour SO_2 standard. The new 1-hour standard is 0.075 parts per million (196 μg/m³). The U.S. EPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard became effective 60 days after publication in the Federal Register.*

[3] *The California Air Resources Board has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

Generally, the sources for hydrogen sulfide emissions include decomposition of human and animal wastes and industrial activities, such as food processing, coke ovens, kraft paper mills, tanneries, and petroleum refineries. There are no such uses or sources associated with the proposed project. Similarly, the sources for vinyl chloride emissions include manufacturing of plastic products, hazardous waste sites, and landfills; and there are no such uses or sources associated with the proposed project. As a result, there is no need for any further evaluation of the hydrogen sulfide or vinyl chloride emissions associated with this project. In addition, according to the SCAQMD's *2007 Air Quality Management Plan*,[5] the sulfate and visibility-reducing particle standards have not been exceeded anywhere in the Basin. The California Air Resources Board (CARB) has determined that the CAAQS for lead was exceeded in Central Los Angeles County (SRA 1) based on monitoring data for 2006 through 2008.[6] The exceedance was primarily the result of lead emissions from an industrial lead-acid battery recycling facility in the City of Commerce. The SCAQMD currently maintains a network of three source-oriented lead monitors around the facility. Based on violations of the lead standard, the SCAQMD issued violation notices to the facility for exceeding the limit of 1.5 micrograms per cubic meter over a 30-day averaging period during five

5 South Coast Air Quality Management District, *2007 Air Quality Management Plan*, (2007).

6 California Air Resources Board, *Proposed 2010 Amendments to the State Area Designations, Criteria, and Maps*, (2010) 23.

consecutive months (December 2007 through April 2008).[7] Concentrations during this period also exceeded the federal lead standard. Since this time, the SCAQMD monitors show concentrations that are much lower, although they still exceed the revised federal lead standard of 0.15 $\mu g/m^3$ calculated as a rolling three-month average. No other monitors in the Basin indicate lead exceedances.[8] The proposed project is not located in the same source receptor area as the lead exceedances in the City of Commerce. The project does not include any uses that would emit lead. Motor vehicles and paints used to be a source of lead; however, unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential and commercial land use projects. As a result, there is no need for any further evaluation of lead emissions with respect to the proposed project. Accordingly, this air quality analysis will focus primarily on the criteria air pollutants summarized below.

- **Ozone (O_3).** Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X), both byproducts of internal combustion engine exhaust and other sources undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Ozone or ozone precursor emissions may be transported into the MDAB from other air basins, such as the San Joaquin Valley Air Basin or South Coast Air Basin.

- **Volatile Organic Compounds (VOCs).** VOCs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by VOCs, but rather by reactions of VOCs to form secondary air pollutants, including ozone. VOCs are also referred to as reactive organic compounds (ROCs) or reactive organic gases (ROGs). VOCs themselves are not criteria pollutants; however, they contribute to the formation of O_3.

- **Nitrogen Dioxide (NO_2).** NO_2 is a reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO_2 is also a byproduct of fuel combustion. The principle form of NO_X produced by combustion is NO, but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations NO_X is only potentially irritating. NO_2 absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.

- **Carbon Monoxide (CO).** CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, and motor vehicles operating at slow speeds are the

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7 South Coast Air Quality Management District, "Facility Information Detail (FIND)," http://www.aqmd.gov/webappl/fim/prog/novnc.aspx?fac_id=124838. 2010.

8 California Air Resources Board, *Proposed 2010 Amendments to the State Area Designations, Criteria, and Maps*, (2010) 23.

primary source of CO in the basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Sulfur dioxide (SO_2).** SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4).

- **Respirable Particulate Matter (PM10).** PM10 consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM10, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM10 is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

- **Fine Particulate Matter (PM2.5).** PM2.5 refers to particulate matter that is 2.5 microns or smaller in size. The sources of PM2.5 include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_x, and VOCs are transformed in the air by chemical reactions.

2.2.2 *Toxic Air Contaminants*

In addition to criteria pollutants, the SCAQMD periodically assesses levels of toxic air contaminants (TACs) in the Basin. A TAC is defined by California Health and Safety Code Section 39655:

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

Between April 2004 and March 2006, the SCAQMD conducted the Multiple Air Toxics Exposure Study III (MATES III), which is a follow-up to previous MATES I and II air toxics studies conducted in the Basin. The MATES III Final Report was issued in September 2008. The MATES III study, based on actual monitored data throughout the Basin, consisted of several elements. These included a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic risk across the Basin from exposure to TACs. The MATES III study applied a 2-kilometer (1.24-mile) grid over the Basin and reported carcinogenic risk within each grid space (covering an area of 4 square kilometers or 1.54 square miles). The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the Basin equates to a background cancer risk of approximately 1,200 in 1,000,000 primarily due to diesel exhaust. The MATES III study also found lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous MATES II study conducted during 1998 and 1999. Specifically, benzene and 1,3-butadiene,

pollutants generated mainly from vehicles, were down 50 percent and 73 percent, respectively.[9] The reductions were attributed to air quality control regulations and improved emission control technologies.

2.3 Local Air Quality

As mentioned above, the SCAQMD has divided the Basin into Source Receptor Areas in which air quality monitoring stations are operated. The project site is located in the Central San Bernardino Valley Source Receptor Area (SRA 34). SRA 34 has a monitoring station located in Fontana and another station located in San Bernardino. The monitoring station located closest to the project site is at 24302 East 4th Street, San Bernardino (Station No. 5203) and is approximately 0.84 miles south of the project site. This station monitors emission levels of O_3, NO_2, CO, PM10, and PM2.5. The station located at 14360 Arrow Highway, Fontana (Station No. 5197), approximately 12 miles west of the project site, was used to establish background levels for SO_2.

Table 2, Ambient Pollutant Concentrations, lists the ambient pollutant concentrations registered and the exceedances of state and federal standards that have occurred at the abovementioned monitoring station from 2007 through 2009, the most recent years in which data is available from the SCAQMD. As shown, the monitoring station has registered values above state and federal standards for O_3, the state standard for PM10, and the federal standard for PM2.5.

Table 2
Ambient Air Pollutant Concentrations

Pollutant	Standards[1]	Year		
		2007	2008	2009
OZONE (O_3)				
Maximum 1-hour concentration (ppm)		0.153	0.157	0.150
Maximum 8-hour concentration (ppm)		0.121	0.122	0.126
Number of days exceeding state 1-hour standard	0.09 ppm	48	62	53
Number of days exceeding state 8-hour standard	0.070 ppm	74	90	79
Number of days exceeding federal 8-hour standard	0.075 ppm	51	62	62
NITROGEN DIOXIDE (NO_2)				
Maximum 1-hour concentration (ppm)		0.08	0.09	0.08
Annual average concentration (ppm)		0.0245	0.0217	0.0196
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
CARBON MONOXIDE (CO)				
Maximum 1-hour concentration (ppm)		4	2	3
Maximum 8-hour concentration (ppm)		2.3	1.8	1.9
Number of days exceeding 1-hour standard	20 ppm	0	0	0

9 South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III) – Draft Report*, (2008) ES-2.

Pollutant	Standards[1]	Year		
		2007	2008	2009
Number of days exceeding 8-hour standard	9.0 ppm	0	0	0
SULFUR DIOXIDE (SO_2)				
Maximum 1-hour concentration (ppm)		0.01	0.01	0.01
Maximum 24-hour concentration (ppm)		0.004	0.003	0.002
Number of days exceeding state 1-hour standard	0.25 ppm	0	0	0
Number of days exceeding state 24-hour standard	0.04 ppm	0	0	0
RESPIRABLE PARTICULATE MATTER (PM10)				
Maximum 24-hour concentration ($\mu g/m^3$)		136	76	66
Annual average concentration ($\mu g/m^3$)		51.4	42.7	41.5
Number of samples exceeding state standard	50 $\mu g/m^3$	28	19	11
Number of samples exceeding federal standard	150 $\mu g/m^3$	0	0	0
FINE PARTICULATE MATTER (PM2.5)				
Maximum 24-hour concentration ($\mu g/m^3$)		72.1	43.5	37.9
Annual average concentration ($\mu g/m^3$)		18.3	13.5	13.0
Number of samples exceeding federal 24-hour standard	35 $\mu g/m^3$	11	3	3

Source: South Coast Air Quality Management District, "Historical Data by Year," http://www.aqmd.gov/smog/historicaldata.htm. 2010.

[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

3.0 REGULATORY SETTING

3.1 Federal

The U.S. EPA is responsible for enforcing the federal Clean Air Act and the NAAQS. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also maintains jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes national emissions standards for vehicles. As part of its enforcement responsibilities, the U.S. EPA requires each state with areas that do not meet the NAAQS to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the time frame identified in the SIP. The U.S. EPA formally classifies air basins as attainment or nonattainment based on whether the region meets or exceeds the NAAQS. The status of the Basin with respect to attainment with the NAAQS is summarized in **Table 3, Attainment Status – South Coast Air Basin (San Bernardino County Portion).**

In response to rapid population growth and the associated rise in motor vehicle operations, the 1990 Clean Air Act Amendments addressed tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The amendments established more stringent standards for hydrocarbons, NO_X, and CO emissions in order to reduce the ozone and carbon monoxide levels in heavily populated areas. Under the 1990 Clean Air Act, new fuels were required to be less volatile, contain less sulfur (regarding

diesel fuel), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). The U.S. EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. Due to the lack of a substantial reduction in hazardous emissions under the 1977 Clean Air Act, the 1990 Clean Air Act Amendments listed 189 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants, to be reduced. The 1990 Clean Air Act Amendments impacts major stationary sources and area emissions sources requiring use of Maximum Achievable Control Technology (MACT) to reduce HAP emissions and their associated health impacts.

Table 3
Attainment Status – South Coast Air Basin (San Bernardino County Portion)

Pollutant	State	Federal
Ozone (O_3)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2)	Nonattainment	Attainment (Maintenance)
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Respirable Particulates (PM10)	Nonattainment	Nonattainment
Fine Particulates (PM2.5)	Nonattainment	Nonattainment
Lead (Pb)	Attainment	Unclassified
Sulfates (SO_4)	Attainment	—
Hydrogen Sulfide (H_2S)	Unclassified	—
Vinyl Chloride	Unclassified	—
Visibility-Reducing Particles	Unclassified	—

Sources:
California Air Resources Board, "Area Designations Maps / State and National," http://www.arb.ca.gov/desig/adm/adm.htm. 2011.
U.S. Environmental Protection Agency, "Air Quality Maps," http://www.epa.gov/region9/air/maps/index.html. 2011.

3.2 State

CARB oversees air quality planning and control throughout California. It is primarily responsible for ensuring the implementation of the California Clean Air Act, responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. In addition, CARB also sets health based air quality standards and control measures for toxic air contaminants (TACs). Much of CARB's research goes toward automobile emissions, as they are primary contributors to air pollution in California. Under the Clean Air Act, CARB has the authority to establish more stringent standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

The California Clean Air Act established a legal mandate for air basins to achieve the CAAQS by the earliest practical date. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as attainment, nonattainment, or unclassified according to state standards. CARB makes area designations for ten criteria pollutants: O_3, CO, NO_2, SO_2, PM10, PM2.5, sulfates, lead, hydrogen sulfide, and visibility-reducing particles.[10] Air quality of a region is considered to be in attainment of the state standards if the measured ambient air pollutant levels for O_3, CO, NO_2, PM10, PM2.5, SO_2 (1- and 24-hour), and lead are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive three-year period. The status of the Basin with respect to attainment with the CAAQS is summarized in **Table 3.**

3.3 Regional

3.3.1 South Coast Air Quality Management District

The management of air quality in the Basin is the responsibility of the SCAQMD. This responsibility was given to SCAQMD by the state legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Lewis-Presley Air Quality Act, the SCAQMD is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. Specifically, the SCAQMD is responsible for monitoring ambient air pollutant levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards.

The SCAQMD primarily regulates emissions from stationary sources such as manufacturing and power generation. Mobile sources such as buses, automotive vehicles, trains, and airplanes are largely out of the SCAQMD's jurisdiction and are up to CARB and the U.S. EPA to regulate. In order to achieve air quality standards, the SCAQMD adopts an Air Quality Management Plan (AQMP) that serves as a guideline to bring pollutant concentrations into attainment with federal and state standards. The SCAQMD determines if certain rules and control measures are appropriate for their specific region according to

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10 California Air Resources Board, "Area Designations (Activities and Maps)," http://www.arb.ca.gov/desig/desig.htm. 2010. According to California Health and Safety Code, Section 39608, "state board, in consultation with the districts, shall identify, pursuant to subdivision (e) of Section 39607, and classify each air basin which is in attainment and each air basin which is in nonattainment for any state ambient air quality standard." Section 39607(e) states that the State shall "establish and periodically review criteria for designating an air basin attainment or nonattainment for any state ambient air quality standard set forth in Section 70200 of Title 17 of the California Code of Regulations. California Code of Regulations, Title 17, Section 70200 does not include vinyl chloride; therefore, CARB does not make area designations for vinyl chloride.

technical feasibility, cost effectiveness, and the severity of nonattainment. Once the SCAQMD has adopted the proper rules, control measures, and permit programs, it is responsible for implementing and enforcing compliance with those rules, control measures, and programs.

SCAQMD CEQA Air Quality Handbook

In 1993, the SCAQMD prepared its *CEQA Air Quality Handbook* to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA.[11] The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the *CEQA Air Quality Handbook*. The documents describe the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents. The Handbook recommends thresholds of significance in order to determine if a project will have a significant adverse environmental impact. Other important contents are methodologies for predicting project emissions and mitigation measures that can be taken to avoid or reduce air quality impacts. Although the Governing Board of the SCAQMD has adopted the *CEQA Air Quality Handbook*, and is in the process of developing a replacement document, it does not, nor does it intend to, supersede a local jurisdiction's CEQA procedures.[12]

Supplemental information has been adopted by the SCAQMD pursuant to the *Air Quality Analysis Guidance Handbook* update. These include revisions to the air quality significance thresholds and a new procedure referred to as "localized significance thresholds," which has been added as a significance threshold under the *Final Localized Significance Threshold Methodology*.[13] Additionally, the SCAQMD has recommended that lead agencies not use the screening tables in the *CEQA Air Quality Handbook's* Chapter 6 because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory and are also based on out-dated trip generation rates from a prior edition of the Institute of Transportation Engineer's Trip Generation Handbook.[14] The SCAQMD has also recommended that lead agencies not use the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L as they are obsolete, and instead recommends using on-road mobile source emission factors approved by the CARB.[15] The outdated and obsolete information were not used in this analysis. The applicable portions

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11 South Coast Air Quality Management District, "Air Quality Analysis Guidance Handbook," http://www.aqmd.gov/CEQA/hdbk.html. 2009.

12 South Coast Air Quality Management District, "Frequently Asked CEQA Questions," http://www.aqmd.gov/ceqa/faq.html. 2007.

13 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

14 South Coast Air Quality Management District, "CEQA Air Quality Handbook," (1993), http://www.aqmd.gov/ceqa/oldhdbk.html. 2007.

15 South Coast Air Quality Management District, "EMFAC 2007 (v2.3) Emission Factors (On-Road)," http://www.aqmd.gov/CEQA/handbook/onroad/onroad.html. 2008.

of the *CEQA Air Quality Handbook*, the *Air Quality Analysis Guidance Handbook* supplemental information, and other revised methodologies were used in preparing the air quality analysis in this section.

SCAQMD Air Quality Management Plan

The SCAQMD is required to develop AQMPs describing how air quality in the Basin will be improved. In addition, the U.S. EPA requires that conformity budgets be established in the AQMP based on the most recent planning assumptions. Since 1979, a number of AQMPs have been prepared. The SCAQMD adopted the currently applicable *2007 Air Quality Management Plan* on June 1, 2007. CARB approved the AQMP as the comprehensive SIP component for the Basin on September 27, 2007. The purpose of the AQMP for the Basin (and those portions of the Salton Sea Air Basin under the SCAQMD's jurisdiction) is to set forth a comprehensive program that will lead these areas into compliance with federal and state air quality planning requirements for ozone and PM2.5. In addition, as part of the *2007 Air Quality Management Plan*, the SCAQMD requested U.S. EPA's approval of a "bump-up" to the "extreme" nonattainment classification of ozone for the Basin. The extreme nonattainment classification would extend the ozone attainment date from 2021 to 2024 and allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of existing control technologies. The U.S. EPA approved the extreme nonattainment request on April 15, 2010.

The *2007 Air Quality Management Plan* focuses on attainment strategies for the ozone and PM2.5 standards through stricter control of sulfur oxides and directly emitted PM2.5, NO_x, and VOCs. Although PM2.5 plans for nonattainment areas were due in April 2008, the SCAQMD has integrated PM2.5 and ozone reduction control measures and strategies in the *2007 Air Quality Management Plan*. The need to commence PM2.5 control strategies before April 2008 was due to the attainment date for PM2.5 (2015) being much earlier than that for ozone (2024 for the extreme nonattainment designation). Control measures and strategies for PM2.5 will also help control ozone generation in the region because PM2.5 and ozone share similar precursors (e.g., NO_x). In addition, the AQMP focuses on reducing VOC emissions, which have not been reduced at the same rate as NO_x emissions in the past. Hence, the Basin has not achieved the reductions in ozone as were expected in previous plans. A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implement the programs contained in these plans. Agencies involved include the U.S. EPA, CARB, local governments, Southern California Association of Governments (SCAG), and the SCAQMD.

SCAQMD Rules and Regulations

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the South Coast Air Basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board, which limit the emissions that can be generated by various uses/activities and that identify specific pollution reduction measures which must be implemented in association with various uses and activities. These rules not only regulate the emissions of the federal and state criteria pollutants but also toxic air contaminants and acutely hazardous materials. The rules are also subject to ongoing refinement by SCAQMD. The following rules listed below are several of the key rules that may be applicable to activities and uses associated with the proposed project.

- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM10 emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust (see also Rule 1186).

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1121 (Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters)** - This rule prescribes NO_x emission limits for natural gas-fired water heaters with heat input rates less than 75,000 Btu per hour. It applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters. In lieu of meeting these NO_x limits, this rule allows emission mitigation fees to be collected from water heater manufacturers to fund stationary and mobile source emission reduction projects targeted at offsetting NO_x emissions from water heaters that do not meet Rule 1121 emission standards.

- **Rule 1146.2 (Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters)** – This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_x emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)** – This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

Stationary sources of emissions are subject to these and other rules and are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD monitors the amount of stationary emissions being generated and uses this information in developing AQMPs. The proposed project would be subject to MDAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts; however, the project would not include any permitted stationary sources.[16]

3.3.2 Southern California Association of Governments

SCAG is a council of governments for the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization for the Southern California region, it is responsible, pursuant to Section 176(c) of the 1990 amendments to the Clean Air Act, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts. The SCAG projections form the basis for the transportation components of the AQMP and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

3.3.3 City of San Bernardino General Plan

Local governments have the authority and responsibility to reduce air pollution through their police power and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the AQMP. The AQMP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies and implementation measures in its general plan, such as the Natural Resources and Conservation section in the City of San Bernardino General Plan. Through capital improvement programs, local governments can

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16 SCAQMD Rule 219 (Equipment not requiring a written permit pursuant to Regulation II) lists specific equipment that does not require an SCAQMD permit. Among these include natural-gas fired water-heaters with a maximum heat input rating of 2,000,000 British thermal units (Btu) per hour or less, which are typical for residential and commercial uses.

fund infrastructure that contributes to improved air quality, by requiring such improvements as bus turnouts, energy-efficient streetlights and synchronized traffic signals. In accordance with the CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation. Development in the proposed project is subject to the City's general plan. The City of San Bernardino General Plan identifies goals and policies that guide development within the City. Specific policies of the General Plan that are particularly relevant to air quality are listed in the Air Quality component of Chapter 12, Natural Resources and Conservation:

Goal 12.5 Promote air quality that is compatible with the health, well being, and enjoyment of life.

- Policy 12.5.1 Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with South Coast Air Quality Management District (SCAQMD) standards.
- Policy 12.5.2 Prohibit the development of land uses (e.g. heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.
- Policy 12.5.3 Require dust abatement measures during grading and construction operations. (LU-1)
- Policy 12.5.4 Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.
- Policy 12.5.5 Purchase City vehicles that use energy efficient fuel and minimize air pollution. (NR-2)

Goal 12.6 Reduce the amount of vehicular emissions in San Bernardino.

- Policy 12.6.1 Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.
- Policy 12.6.2 Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.
- Policy 12.6.3 Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.

Policy 12.6.4 Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles. (LU-1)

Policy 12.6.5 Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).

Policy 12.6.6 Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.

Policy 12.6.7 Promote the use of public transit and alternative travel modes to reduce air emissions.

Goal 12.7 Participate in regional initiatives and programs to improve the South Coast Basin's air quality.

Policy 12.7.1 Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.

Policy 12.7.2 Work with the South Coast Air Quality Management District to establish controls and monitor uses in the City that could add to the air basin's degradation (e.g. auto repair, manufacturers).

Policy 12.7.3 Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.

Policy 12.7.4 Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.

Policy 12.7.5 Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.

Policy 12.7.6 Encourage, publicly recognize, and reward innovative approaches to improve air quality.

Policy 12.7.7 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.

4.0 METHODOLOGY

The air quality assessment of the proposed project utilized approved air quality models and guidelines as tools to create the analytical basis for the assessment. The California Emissions Estimator Model

(CalEEMod)[17] was used to analyze the proposed project emissions during construction and operation. CalEEMod is a program that calculates air emissions from land use sources and incorporates the CARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. The model also incorporates factors specific to the project region, such as VOC content in architectural coating and vehicle fleet mixes. During project construction, the model can analyze emissions that occur during different phases, such as building construction and architectural coating, concurrently or separately.

Site-specific or project-specific data were used in the CalEEMod model where available. The project applicant provided the estimated construction schedule. Construction of the proposed project would occur in several phases and would begin in 2013 and is estimated to last until 2022. The number and type of construction equipment, vendor trips (e.g., transport of building materials) and worker trips was based on default values provided in the CalEEMod model. Construction activities include demolition, grading, building construction, asphalt paving, and architectural coating. Operational emissions would result primarily from motor vehicles and area sources (e.g., natural gas combustion). Motor vehicle emissions are estimated from the trip rates provided in the traffic report for the project.[18]

The SCAQMD's *Final Localized Significance Threshold Methodology* ("LST Methodology") was used to assess conformity with the established localized significance thresholds (LSTs). The SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the thresholds without project-specific dispersion modeling. The allowable emission rates depend on: (1) the SRA in which the project is located, (2) the size of the project site, and (3) the distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals). The project site is located in SRA 34 and is larger than 5 acres; however, using the screening levels for a 5 acre project would result in a conservative analysis as the thresholds would be set at a much lower level.[19] Construction of the site would occur in phases and the maximum amount of disturbed area during project construction is estimated to be 7.5 acres. The nearest off-site sensitive receptors are located adjacent to the project site across Baseline Street and Waterman Avenue. The LST Methodology states that "projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters."[20] Since the nearest sensitive receptors (residential land uses) are located about 25 meters from the project site, a 25-meter distance was used to determine the screening criteria.

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17 South Coast Air Quality Management District, "CalEEMod, Version 2011.1.1," http://www.caleemod.com/.

18 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

19 Ian MacMillan, Program Supervisor–CEQA, South Coast Air Quality Management District, personal communication with Alan Sako, Impact Sciences, Inc., March 31, 2011.

20 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008) 3-3.

5.0 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the *State CEQA Guidelines*, the proposed project would have a significant impact on air quality if it would:

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

The *State CEQA Guidelines* Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The SCAQMD *CEQA Air Quality Handbook* and related guidelines provide thresholds for assessing the significance of criteria air pollutants from construction and operation. Exceedance of the SCAQMD thresholds could result in a potentially significant air quality impact. Therefore, the project would result in a potentially significant impact to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Generate total criteria pollutant emissions during construction or operation (direct and indirect) in excess of the thresholds given in **Table 4, SCAQMD Regional Emissions Significance Thresholds**;
- Expose sensitive receptors to substantial pollutant concentrations:
    - Exceed the localized significance thresholds given in **Table 5, SCAQMD Localized Significance Thresholds**,
    - Cause or contribute to the formation of CO Hotspots,
    - Result in an incremental increase in cancer risk greater than or equal to 10 in a million, a cancer burden greater than 0.5 excess cancer cases (in areas where the incremental increase in risk is greater than 1 in a million), and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1; and/or
- Expose sensitive receptors to objectionable odors affecting a substantial number of people.

If the project exceeds the regional emissions significance thresholds shown in **Table 4**, the project would also result in a cumulatively considerable contribution to air quality impacts and would be considered cumulatively significant even if it conforms to the applicable Air Quality Management Plan.

Table 4
SCAQMD Regional Emissions Significance Thresholds

Phase	Pollutant (pounds per day)					
	VOC	NO_x	CO	SO_x	PM10	PM2.5
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds*, (2011).*

The localized significance thresholds are shown in Table 5. A significant impact would occur during construction or operation if on-site emissions exceed the thresholds shown below.

Table 5
SCAQMD Localized Significance Thresholds

Localized Significance Threshold	Pollutant (pounds per day)[1]			
	NO_x	CO	PM10	PM2.5
Construction	270	1,746	14	8
Operational	270	1,746	4	2

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008), Appendix C.

[1] *The NO_x LST thresholds contained in the SCAQMD lookup tables are based on emissions of NO_x from construction of the Project and assume gradual conversion to NO_2 based on the distance from the Project site boundary.*

6.0 IMPACT ANALYSIS

Threshold: Conflict with or obstruct implementation of the applicable air quality plan

According to the SCAQMD *CEQA Air Quality Handbook*, a project would have a significant impact if it conflicts with or delays implementation of the applicable AQMP. A project is consistent if it meets the following indicators:

- The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

- The project will not exceed the assumptions in the AQMP in 2010 or increments based on the year of project build-out.

As discussed later in this section, the proposed project would not exceed the significance thresholds for construction or the operational emissions. In addition, the project would not exceed the screening criteria for the localized significance thresholds. Therefore, since the project would not exceed the thresholds, it would not increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency with the assumptions in the AQMP is established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. The *2007 Air Quality Management Plan* based its assumptions on growth forecasts contained in the SCAG *2004 Regional Transportation Plan*.[21] The 2004 RTP is based on growth assumptions through 2030 developed by each of the cities and counties in the SCAG region. The project site is located in the San Bernardino Waterman Gardens Public Housing, built in 1943, and includes 252 family units in 114 buildings which include 87 single-story duplexes, 24 multi-family townhouses, a management office building, Head Start facility, and maintenance facility. The project would result in the demolition of the existing structures and construction of new buildings with similar uses. A General Plan amendment would not be required. Therefore, the proposed project is considered to be consistent with growth assumptions included in the AQMP. Accordingly, the proposed project complies with Consistency Criterion No. 2

Level of Significance before Mitigation Measures: Less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance after Mitigation Measures: Less than significant impact.

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

Construction Emissions

Air quality within the project area is regulated by the SCAQMD. Construction activities have the potential to cause temporary significant impacts with respect to air quality standards. According to the SCAQMD, a project's construction emissions are considered to cause a significant impact to air quality if they would exceed the SCAQMD thresholds of significance. The construction emissions associated with

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21 South Coast Air Quality Management District, *Final 2007 Air Quality Management Plan*, (2007) 3-1.

the proposed project were estimated using the CalEEMod emissions estimator model. CalEEMod is a program that calculates air emissions from land use sources and incorporates the CARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. The model also incorporates factors specific to the Basin and the SCAQMD, such as VOC content in architectural coating and vehicle fleet mixes. During project construction, the model can analyze emissions that occur during different phases, such as grading and building construction.

Site-specific or project-specific data were used in the CalEEMod model where available. The project applicant provided the estimated construction schedule. Construction would take place during four main phases. Phase 1 would begin in 2013 and last approximately two years. Phase 2 would begin in 2015 and last approximately three to four years. Phase 3 would begin in 2018 and last approximately two to three years. Phase 4 would begin in 2020 and last just over two years. The existing project site is currently developed; therefore, demolition activity would occur during the start of each construction phase. The phases would overlap to some extent such that demolition for the upcoming phase would occur during the final months of construction from the preceding phase.

The number and types of construction equipment, vendor trips (e.g., transport of building materials), and worker trips were based on values provided in the CalEEMod model. In addition, grading amounts were based on factors provided in the CalEEMod model. In order to account for dust suppression in the CalEEMod model, it was assumed that the project contractor would comply with SCAQMD Rule 403 (Fugitive Dust) by applying water a minimum of three times daily for dust suppression. The emission reduction percentage association with Rule 403 dust suppression was based on data from the SCAQMD. It was also assumed that construction vehicles would conform with engine emissions requirements as described in the U.S. EPA/CARB off-road engine certification program. **Table 6, Estimated Construction Emissions**, shows the construction emissions that would occur from the proposed project.

As shown in **Table 6**, construction emissions would not exceed the SCAQMD threshold of significance. Therefore construction of the proposed project would have a less than significant impact on air quality in the region.

Operational Emissions

Operational emissions would be generated by both area and mobile sources as a result of normal day-to-day activities on the project site after occupation. Area source emissions would be generated by the consumption of natural gas for space and water heating devices (including residential use water heater and boilers), the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

Table 6
Estimated Construction Emissions

Construction Year	Maximum Emissions in Pounds per Day[1]					
	VOC	NOx	CO	SOx	PM10	PM2.5
2013	7.92	50.38	58.13	0.10	7.66	4.74
2014	4.40	25.83	29.65	0.05	2.83	2.03
2015	40.69	35.12	68.40	0.13	8.48	3.41
2016	19.63	15.44	69.34	0.14	7.75	1.00
2017	18.95	7.33	49.10	0.08	3.19	1.63
2018	15.52	16.51	88.80	0.16	4.69	1.97
2019	13.84	16.60	85.01	0.16	7.72	1.93
2020	25.46	14.25	71.78	0.14	5.97	1.89
2021	14.65	17.84	78.48	0.15	10.65	1.96
2022	12.38	7.45	49.02	0.09	1.81	0.40
SCAQMD Threshold:	75	100	550	150	150	55
Exceeds Threshold?	NO	NO	NO	NO	NO	NO

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix A**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *PM10 and PM2.5 fugitive dust emissions incorporate watering as a control measure.*

The project would demolish the existing 252 residential unit development and construct approximately 500 residential units, a 45,835 square foot recreational facility, a 58,200 square foot community support center, a 4,000 square foot community care facility, a 6,000 square foot Administration and Community room, a 7,000 square foot recycling facility, and a 20,000 square foot shop and youth/jobs training facility. The project's operational emissions would result in a significant impact to air quality in the region if they would exceed the SCAQMD thresholds of significance. The operational emissions associated with the proposed project were estimated using the CalEEMod model. CalEEMod can estimate mobile and area source emissions associated with land uses specific to a given operational year and location. The proposed project would be operational in 2022; therefore, the year 2022 was used to estimate the operational emissions. Area source emissions are based on emission factors for natural gas, gasoline (for landscaping equipment), and consumer products contained in the CalEEMod model. Trip generation rates provided in the traffic report for the project were used to estimate the mobile source emissions.[22] The trip generation rates take into account the mix of land uses and the resulting reduction in trips between the residential and commercial portions of the project. **Table 7, Estimated Operational Emissions**, shows the operational emissions associated with the project.

22 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

Because the project site is currently developed with existing uses, the existing site emissions were estimated in order to determine the project's resulting net change in emissions. The existing site's mobile and area source emissions were calculated for year 2011 using emission factors in the CalEEMod model and trip generation rates from the traffic report.[23]

Table 7
Estimated Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM10	PM2.5
Summertime Emissions[1]						
Project Emissions						
Operational (Mobile) Sources	17.44	44.34	147.75	0.46	50.50	2.65
Area Sources	16.16	3.97	43.92	0.02	0.50	0.50
Summertime Emissions Total	33.60	48.31	191.67	0.48	51.00	3.15
Existing Land Use Emissions						
Operational (Mobile) Sources	19.43	53.53	198.08	0.27	30.57	2.94
Area Sources	33.25	2.56	106.00	0.21	13.53	13.53
Summertime Emissions Total	52.68	56.09	304.08	0.48	44.10	16.46
Net Summertime Emissions Total	**-19.08**	**-7.78**	**-112.41**	**0**	**6.90**	**-13.31**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
Wintertime Emissions[2]						
Project Emissions						
Operational (Mobile) Sources	17.56	45.67	138.13	0.42	50.52	2.66
Area Sources	16.16	3.97	43.92	0.02	0.50	0.50
Wintertime Emissions Total	33.72	49.64	182.05	0.44	51.02	3.16
Existing Land Use Emissions						
Operational (Mobile) Sources	19.57	56.85	182.55	0.24	30.60	2.97
Area Sources	33.25	2.56	106.00	0.21	13.53	13.53
Wintertime Emissions Total	52.82	59.41	288.55	0.45	44.13	16.49
Net Wintertime Emissions Total	**-19.10**	**-9.77**	**-106.5**	**-0.01**	**6.89**	**-13.33**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO

Source: Impact Sciences, Inc. Emission calculations are provided in ***Appendix A****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *Summertime Emissions" are representative of the conditions that may occur during the ozone season (May 1 to October 31).*
[2] *Wintertime Emissions" are representative of the conditions that may occur during the balance of the year (November 1 to April 30).*

23 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

As shown in **Table 7**, the net change in operational emissions associated with implementation of the proposed project would not exceed the SCAQMD thresholds for significance for any pollutant. Projects that generate emissions below the thresholds of significance would not be considered to contribute a substantial amount of air pollutant to regional air quality. Therefore, operational emissions associated with the proposed project would be considered a less than significant impact.

Level of Significance before Mitigation Measures: Less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance after Mitigation Measures: Less than significant impact.

Threshold: **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)**

According to the SCAQMD *CEQA Air Quality Handbook*, projects that are within the emission thresholds identified above should be considered less than significant on a cumulative basis unless there is other pertinent information to the contrary.[24] As shown in **Table 6 and Table 7**, the project would not exceed the construction or operational project-level thresholds.

The SCAQMD's *CEQA Air Quality Handbook* also identifies three other possible methods to determine the cumulative significance of the project's emissions.[25] The SCAQMD's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the 2007 AQMP. However, one method is no longer recommended or supported by the SCAQMD, and another method is not applicable as the SCAQMD repealed the underlying regulation (Regulation XV) after the *CEQA Air Quality Handbook* was published.[26] Therefore, the only viable SCAQMD method for determining cumulative impacts is based on whether the rate of growth in vehicle miles traveled (VMT) exceeds the rate of growth in population.

Using this method, the ratio of a project's VMT to anticipated VMT in the city or county in which the project is located is compared to the ratio of the project population to the anticipated population in the same city or county. If the VMT ratio is less than the population ratio, then the project is not considered to

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24 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 9–12.

25 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) 9–12.

26 The two methods that are no longer recommended and supported by the SCAQMD are: (1) demonstrating a 1 percent per year reduction in project emissions of VOC, NO_x, CO, SO_x, and PM10 and (2) demonstrating a 1.5 average vehicle ridership, or average vehicle occupancy for a transportation project.

have a significant cumulative air quality impact. The VMT factors are obtained from CalEEMod and EMFAC2007. The population factors are based on the U.S. Census Bureau, 2010 census data for the census block groups corresponding to the project site. Based on this data, the project site currently houses 844 people, which is equivalent to 3.35 persons per dwelling unit. Using this same population density, the project would have a population of 1,675. As shown in **Table 8**, **Comparison of Vehicle Miles Traveled to Population (2022)**, this criterion has been met, and therefore the project would not have a significant cumulative impact on air quality under this criterion.

Table 8
Comparison of Vehicle Miles Traveled to Population (2022)

Comparison Item	Vehicle Miles Traveled	Population
Proposed Project	14,747 [NET]	831 [NET]
San Bernardino County	70,872,000	2,659,237
Ratio of Project to San Bernardino County	0.000208	0.000312

Source: Impact Sciences, Inc.
Note: The estimated project VMT was estimated from CalEEMod. The estimated VMT in San Bernardino County in 2022 was determined by EMFAC2007. The project population includes residents only. The county population projections were obtained from the latest SCAG projections in its 2008 RTP Growth Forecast. The 2022 population was linearly interpolated from the 2020 and 2025 SCAG projections.

Level of Significance before Mitigation Measures: Less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance after Mitigation Measures: Less than significant impact.

Threshold: Expose sensitive receptors to substantial pollutant concentrations:

- **Exceed the localized significance thresholds given in Table 5, SCAQMD Localized Significance Thresholds,**
- **Cause or contribute to the formation of CO Hotspots,**
- **Result in an incremental increase in cancer risk greater than or equal to 10 in a million, a cancer burden greater than 0.5 excess cancer cases (in areas where the incremental increase in risk is greater than 1 in a million), and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1; and/or**

Localized Significance Thresholds Analysis

The SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project site as a result of construction and operational activities. The thresholds

are based on standards established by the SCAQMD in the LST Methodology. The thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the project that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The threshold for PM10 and PM2.5 are based on emission levels specified in SCAQMD rules so as to aid in progress toward attainment of the ambient air quality standards.

For project sites of 5 acres or less, the SCAQMD includes screening tables that can be used to determine the maximum allowable daily emissions that would satisfy the thresholds without project-specific dispersion modeling. While the project site is larger than 5 acres, using the screening levels for a 5 acre project would result in a highly conservative analysis as the thresholds would be set at a much lower level.[27] Construction of the site would occur in phases; therefore, the maximum daily amount of disturbed area during project construction would be much less than the total project area and is estimated to be about 7.5 acres. Therefore, use of the screening criteria is appropriate for the project as it would result in a conservative assessment.

The localized significance thresholds are compared to construction and operational emissions that occur on the project site. The thresholds do not apply to emissions occurring off the project site, such as emissions from motor vehicles.[28] The project's on-site emissions for construction and operation are shown in **Table 9, Localized Significance Thresholds Analysis**. As shown, construction and operation of the project would generate on-site emissions that are less than the site-specific localized significance thresholds. Therefore the project would have a less than significant impact on localized air quality.

It should be noted that the U.S. EPA promulgated a new 1-hour NAAQS for nitrogen dioxide (NO_2). The new 1-hour standard is 100 parts per billion (ppb) (188 micrograms per cubic meter [$\mu g/m^3$]) and goes into effect on April 12, 2010. Compliance with the standard is determined on a statistical basis (i.e., the 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations). The U.S. EPA also retained the existing annual average standard of 53 ppb (100 $\mu g/m^3$).

The LST analysis should be based on the most stringent ambient air quality standards in effect. Prior to the new U.S. EPA standard, the 1-hour CAAQS for NO_2 was the most stringent standard at 180 ppb. The SCAQMD screening tables for NO_2 are based on the 1-hour CAAQS. The SCAQMD has not revised the LST screening tables to correspond to the new U.S. EPA 1-hour NO_2 standard. However, as shown in **Table 6** and **Table 7**, the NO_X emissions are much less than the NO_X screening criteria shown in **Table 9**.

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27 Ian MacMillan, Program Supervisor–CEQA, South Coast Air Quality Management District, personal communication with Alan Sako, Impact Sciences, Inc., March 31, 2011.

28 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008) 1-4.

Given that the project's NO_X emissions are well under the screening criteria, the project would not cause or contribute to an exceedance of the new U.S. EPA 1-hour NO_2 standard at nearby sensitive receptors.

Table 9
Localized Significance Thresholds Analysis

Significance Threshold	Pollutant (pounds per day)[1]			
	NO_X	CO	PM10	PM2.5
Construction				
Maximum Daily On-site Emissions	50.38	88.80	10.65	4.74
LST Screening Criteria	270	1,746	14	8
Exceeds Threshold?	NO	NO	NO	NO
Operational				
Maximum Daily On-site Emissions	3.97	43.92	0.50	0.50
LST Screening Criteria	270	1,746	4	2
Exceeds Threshold?	NO	NO	NO	NO

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008), Appendix C.

[1] *The NO_X thresholds contained in the SCAQMD lookup tables are based on emissions of NO_X and assume gradual conversion to NO_2 based on the distance from the project site boundary.*

CO Hotspots Analysis

As shown in **Table 2**, carbon monoxide levels in the project area are substantially below the federal and state standards. Carbon monoxide decreased dramatically in the Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Basin for some time and the Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS.

Nonetheless, localized CO concentrations have the potential to exceed the CAAQS or NAAQS at heavily congested roadway intersections. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO hotspots. Emissions of CO are produced in greatest quantities from motor vehicle combustion and are usually concentrated at or near ground level because they do not readily disperse into the atmosphere, particularly under cool, stable (i.e., low or no wind) atmospheric conditions.

The proposed project was evaluated to determine if it would cause a CO hotspot using a simplified CALINE4 screening model developed by the Bay Area Air Quality Management District (BAAQMD). The simplified model is intended as a screening analysis that identifies a potential CO hotspot. If a hotspot is identified, the complete CALINE4 model is then used to determine precisely the CO concentrations predicted at the intersections in question. The screening model assumes worst-case

conditions (i.e., wind direction is parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than 1 meter per second and extreme atmospheric stability) and provides maximum, worst-case, CO concentrations. The CALINE4 screening method is acceptable to the SCAQMD as long as it is used consistently with BAAQMD methodologies. The model is used to predict future CO concentrations 0 feet from the intersections (directly adjacent to the roadway) in the study area based on projected traffic volumes from the intersections contained in the traffic report for the proposed project.[29] The traffic report identifies the level of service (LOS) for impacted intersections. Intersections operating at a LOS of E or F are considered to have the potential to create a CO hotspot.[30] For the purposes of this analysis, intersections estimated to operate at LOS D, E or F under future cumulative plus project traffic conditions were analyzed.

Maximum future (2030) cumulative plus project CO concentrations were calculated for peak hour morning and evening traffic volumes using the highest traffic volumes in the traffic report associated with the proposed project.[31] Background CO concentrations were included in the analysis. The results of these CO concentration calculations are presented in **Table 10, Maximum Carbon Monoxide Concentrations**, for representative receptors located 0 feet from the intersection.

Table 10
Maximum Carbon Monoxide Concentrations

Intersection	Concentration at 0 Feet (parts per million [ppm])	
	1-Hour	8-Hour
Waterman Avenue / Highland Avenue	4.7	2.8
Waterman Avenue / Base Line Street	4.8	2.8
Waterman Avenue / 5th Street	4.9	3.0
La Junita Street / Base Line Street	4.5	2.7
Exceeds State 1-Hour Standard of 20 ppm?	NO	—
Exceeds Federal 1-Hour Standard of 35 ppm?	NO	—
Exceeds State 8-Hour Standard of 9.0 ppm?	—	NO
Exceeds Federal 8-Hour Standard of 9 ppm?	—	NO

*Source: Impact Sciences, Inc. Emission calculations are provided in **Appendix B**.*

29 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

30 Institute of Transportation Studies, University of California, Davis, *Transportation Project-Level Carbon Monoxide Protocol*, 1997.

31 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

As shown in **Table 10**, the CALINE4 screening procedure predicts, under future (2030) plus project conditions, that future CO concentrations would not exceed the state 1-hour and 8-hour standards at impacted intersections. No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of these intersections. Therefore, the project would result in a less than significant impact relative to future CO concentrations.

Toxic Air Contaminants

Emissions of TACs would be significant if sensitive receptors would be exposed to a carcinogenic risk that exceeds 10 in 1 million or a noncancer Hazard Index greater than 1.0. However, the land uses associated with the proposed project are not anticipated to emit TACs in measureable quantities. Sources of TACs from the project's residential and community commercial land uses may include household solvents and cleaners and motor vehicle emissions. However, residential land uses do not typically generate TAC emissions in quantities that would exceed the SCAQMD thresholds. Additionally, the project would not attract a substantial number of diesel trucks and would not regularly use other types of diesel-fueled equipment. Therefore, the project would not result in TAC emissions that exceed the significance thresholds.

However, the project may locate sensitive receptors on-site that could be exposed to off-site sources of TAC emissions. The SCAQMD maintains a database of permitted stationary sources of emissions in the Basin. Based on a survey of data obtained from the SCAQMD's Facility Information Detail (FIND)[32] system, several facilities that contain permitted equipment as required by Rule 1401 (New Source Review of Toxic Air Contaminants) are located within a 0.25 mile of the project site. These facilities include one automobile body shop, one juice packing company, and one general government facility. The automobile body shop, Nifty Collision Center (Facility ID 124387), received a Notice to Comply (NTC) in 2009. The NTC was in regards to recordkeeping requirements for VOC emissions pursuant to SCAQMD Rule 109 and posting requirements for the permit to operate pursuant to Rule 206. All permitted facilities near to the project site, at the time of this report, are currently in compliance. Therefore, while residents of the proposed project would be located within 0.25 mile of an existing facility that emits air toxics identified in Rule 1401, the impact would be less than significant in accordance with general requirements of Rule 1401.

CARB has determined that adverse health effects are generally elevated near heavily traveled roadways. This is due to motor vehicle emissions, which includes TACs, such as diesel particulate matter, benzene,

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32 South Coast Air Quality Management District, "Facility Information Detail (FIND)," http://www.aqmd.gov/webappl/fim/default.htm. 2011.

and 1,3-butadiene. The CARB guidance document, *Air Quality and Land Use Handbook*, recommends that lead agencies, where possible, avoid citing new sensitive land uses within 500 feet of a freeway,[33] urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. This recommendation is not mandated by state law, but only serves as a general guidance to lead agencies when considering land use projects. The *Air Quality and Land Use Handbook* states that it is up to lead agencies to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.[34] Regional access to the project site is provided by Interstate 210 and Interstate 215. However, both of these freeways are located well over one mile from the project site. Thus, project would not locate sensitive land uses within 500 feet of a freeway. In addition, the average daily trips on nearby roadways are well under the 100,000 limit for urban roads.[35] For these reasons, no significant impacts are anticipated with respect to mobile source TACs.

As previously discussed, the MATES III study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the Basin equates to a cancer risk of approximately 1,200 in 1,000,000 primarily due to diesel exhaust. Based on the MATES III study, the proposed project is located in an area with an approximate carcinogenic risk of 803 in 1,000,000.[36] The carcinogenic risk for nearby surrounding grids ranges from 695 to 1,058 in 1,000,000. As stated above, the proposed project is not in close proximity to any major roadways and freeways. Accordingly, based on the MATES III data and the substantial reduction of health effects from freeways beyond 300 feet, the impacts from TACs at the project site would not be any higher than those experienced by the general population in the project area. Therefore, the proposed project would not expose sensitive receptors to substantial increases in health risks and pollutant concentrations relative to the general population and is considered to have a less than significant impact.

Level of Significance before Mitigation Measures: Less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance after Mitigation Measures: Less than significant impact.

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33 California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) p. 8-9. The 2002 study of impacts along the San Diego (I-405) Freeway and the Long Beach (I-710) Freeway cited by CARB in its *Air Quality and Land Use Handbook* found a substantial reduction in pollutant concentrations, relative exposure, and health risk beyond 300 feet.

34 California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) p. 4.

35 Fehr & Peers, *Draft Waterman Gardens Master Plan Traffic Impact Analysis*, (2011).

36 The SCAQMD provides an online MATES III carcinogenic risk interactive map, which is at http://www2.aqmd.gov/webappl/matesiii/. The interactive map displays the modeled grids and associated risk within each grid.

Threshold: Create objectionable odors affecting a substantial number of people

During project construction, certain pieces of construction equipment and construction activities could emit odors associated with exhaust emissions and evaporative VOCs. Diesel odors emitted from construction equipment would be short term and dissipate quickly. Odors from spray-coating applications of paint and related materials during construction would be regulated by SCAQMD Rule 481 (Spray Coating Operations). This rule imposes equipment and application restrictions during spray painting and spray coating operations. Compliance with SCAQMD rules and permit requirements would ensure no objectionable odors would be created during construction. Therefore, impacts from odors during construction would be less than significant.

The SCAQMD lists land uses primarily associated with odor complaints as waste transfer and recycling stations, wastewater treatment plants, landfills, composting operations, petroleum operations, food and byproduct processes, factories, and agricultural activities, such as livestock operations. The proposed project does not include the development and operation of any of these land uses. In addition, the project is not located downwind and in close proximity to these sources of odors. Therefore, it is not anticipated the project residents would be adversely affected by off-site odorous emissions. Therefore, no significant impacts from odors are anticipated from operation of the proposed project.

Any unforeseen odors generated by the proposed project would be controlled in accordance with SCAQMD Rule 402 (Nuisance). Rule 402 prohibits the discharge of air contaminants that cause "injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property." Failure to comply with Rule 402 could subject the offending facility to possible fines and/or operational limitations in an approved odor control or odor abatement plan, as deemed necessary by the SCAQMD. Adherence to Rule 402 would mitigate unforeseen odors to a less than significant level. Therefore, the proposed project would not have a significant impact on air quality with respect to this criterion.

Level of Significance before Mitigation Measures: Less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance after Mitigation Measures: Less than significant impact.

7.0 CONCLUSION

The air quality assessment for the proposed Waterman Gardens Master Plan Project, located at the intersection of Waterman Avenue and East Base Line Street in San Bernardino, California, was prepared in accordance with the SCAQMD's *CEQA Air Quality Handbook* and other guidance provided by the SCAQMD. Emissions from construction of the proposed project would not exceed the significance thresholds for criteria pollutants. The project's net operational emissions would also not exceed the significance thresholds for criteria pollutants. On-site missions from the proposed project would not exceed the localized significance thresholds established in the SCAQMD's LST Methodology. Furthermore, the proposed project would not expose sensitive receptors to significance health impacts or CO hotspots due to project-related emissions and motor vehicle traffic. The project would not generate odorous emissions and would not expose sensitive receptors to nuisance odors. For these reasons, the proposed project will have a less than significant impact on air quality.

APPENDIX A

Project Construction Emissions Calculations

Waterman Gardens - Construction Phase 1

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Recreational	104	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - Community Center approximately 104,000 sqft
Lot size approximately 12.5 acres

Construction Phase - Demo: 4/1/2013 - 6/30/2013
Grading: 7/1/2013 - 9/30/2013
Building: 10/1/2013 - 3/31/2015
Coating: 1/1/2015 - 3/31/2015
Paving: 2/1/2015 - 3/31/2015

Demolition - Approximately 42,200 sqft of demolition

Grading - Lot size approximately 12.5 acres

Construction Off-road Equipment Mitigation - Construction Mitigation: Tier 3 Engines

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					
2013	11.98	97.60	54.33	0.10	6.53	4.60	11.13	3.32	4.60	7.92	0.00	11,100.69	0.00	1.07	0.00	11,123.21
2014	5.20	34.87	27.49	0.05	0.83	2.13	2.96	0.04	2.13	2.17	0.00	5,035.04	0.00	0.46	0.00	5,044.72
2015	38.08	31.71	26.90	0.05	0.83	2.55	2.78	0.04	2.55	2.56	0.00	5,023.71	0.00	0.45	0.00	5,033.11
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

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					
2013	7.92	50.38	58.13	0.10	4.96	3.43	7.66	1.30	3.43	4.74	0.00	11,100.69	0.00	1.07	0.00	11,123.21
2014	4.40	25.83	29.65	0.05	0.83	2.00	2.83	0.04	2.00	2.03	0.00	5,035.04	0.00	0.46	0.00	5,044.72
2015	38.08	25.10	29.17	0.05	0.83	1.93	2.77	0.04	1.93	1.97	0.00	5,023.71	0.00	0.45	0.00	5,033.11
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	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
Total	**2.72**	**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**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	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
Total	**2.72**	**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

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2013

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					0.64	0.00	0.64	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.64**	**3.50**	**4.14**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

3.2 Demolition - 2013

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	0.14	1.57	0.73	0.00	4.48	0.07	4.54	0.01	0.07	0.08		241.51		0.01		241.65
Vendor	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
Worker	0.10	0.10	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		183.02		0.01		183.23
Total	**0.24**	**1.67**	**1.84**	**0.00**	**4.71**	**0.08**	**4.78**	**0.02**	**0.08**	**0.10**		**424.53**		**0.02**		**424.88**

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					0.25	0.00	0.25	0.00	0.00	0.00						0.00
Off-Road	5.72	37.37	40.72	0.07		2.63	2.63		2.63	2.63	0.00	7,510.81		0.80		7,527.57
Total	**5.72**	**37.37**	**40.72**	**0.07**	**0.25**	**2.63**	**2.88**	**0.00**	**2.63**	**2.63**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

3.2 Demolition - 2013

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	0.14	1.57	0.73	0.00	4.48	0.07	4.54	0.01	0.07	0.08		241.51		0.01		241.65
Vendor	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
Worker	0.10	0.10	1.11	0.00	0.23	0.01	0.24	0.01	0.01	0.02		183.02		0.01		183.23
Total	**0.24**	**1.67**	**1.84**	**0.00**	**4.71**	**0.08**	**4.78**	**0.02**	**0.08**	**0.10**		**424.53**		**0.02**		**424.88**

3.3 Grading - 2013

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					6.22	0.00	6.22	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**6.22**	**4.59**	**10.81**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

3.3 Grading - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.13	1.48	0.00	0.31	0.01	0.32	0.01	0.01	0.02		244.03		0.01		244.31
Total	**0.13**	**0.13**	**1.48**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**244.03**		**0.01**		**244.31**

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					2.43	0.00	2.43	1.29	0.00	1.29						0.00
Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.66		1.06		10,878.90
Total	**7.79**	**50.25**	**56.65**	**0.10**	**2.43**	**3.43**	**5.86**	**1.29**	**3.43**	**4.72**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

3.3 Grading - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.13	1.48	0.00	0.31	0.01	0.32	0.01	0.01	0.02		244.03		0.01		244.31
Total	**0.13**	**0.13**	**1.48**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**244.03**		**0.01**		**244.31**

3.4 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

3.4 Building Construction - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.22	2.80	1.42	0.00	0.16	0.09	0.25	0.01	0.09	0.11		466.45		0.01		466.68
Worker	0.28	0.28	3.26	0.01	0.68	0.02	0.69	0.03	0.02	0.04		536.86		0.03		537.48
Total	**0.50**	**3.08**	**4.68**	**0.01**	**0.84**	**0.11**	**0.94**	**0.04**	**0.11**	**0.15**		**1,003.31**		**0.04**		**1,004.16**

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	4.08	23.47	25.47	0.04		1.95	1.95		1.95	1.95	0.00	4,040.62		0.46		4,050.31
Total	**4.08**	**23.47**	**25.47**	**0.04**		**1.95**	**1.95**		**1.95**	**1.95**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

3.4 Building Construction - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.22	2.80	1.42	0.00	0.16	0.09	0.25	0.01	0.09	0.11		466.45		0.01		466.68
Worker	0.28	0.28	3.26	0.01	0.68	0.02	0.69	0.03	0.02	0.04		536.86		0.03		537.48
Total	**0.50**	**3.08**	**4.68**	**0.01**	**0.84**	**0.11**	**0.94**	**0.04**	**0.11**	**0.15**		**1,003.31**		**0.04**		**1,004.16**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

3.4 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.20	2.55	1.31	0.00	0.16	0.08	0.24	0.01	0.08	0.10		467.40		0.01		467.61
Worker	0.26	0.26	2.98	0.01	0.68	0.02	0.69	0.03	0.02	0.04		527.02		0.03		527.60
Total	**0.46**	**2.81**	**4.29**	**0.01**	**0.84**	**0.10**	**0.93**	**0.04**	**0.10**	**0.14**		**994.42**		**0.04**		**995.21**

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	3.93	23.03	25.35	0.04		1.89	1.89		1.89	1.89	0.00	4,040.61		0.42		4,049.51
Total	**3.93**	**23.03**	**25.35**	**0.04**		**1.89**	**1.89**		**1.89**	**1.89**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

3.4 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.20	2.55	1.31	0.00	0.16	0.08	0.24	0.01	0.08	0.10		467.40		0.01		467.61
Worker	0.26	0.26	2.98	0.01	0.68	0.02	0.69	0.03	0.02	0.04		527.02		0.03		527.60
Total	**0.46**	**2.81**	**4.29**	**0.01**	**0.84**	**0.10**	**0.93**	**0.04**	**0.10**	**0.14**		**994.42**		**0.04**		**995.21**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.18	2.33	1.19	0.00	0.16	0.08	0.23	0.01	0.08	0.09		467.85		0.01		468.04
Worker	0.24	0.23	2.73	0.01	0.68	0.02	0.70	0.03	0.02	0.05		515.24		0.03		515.77
Total	**0.42**	**2.56**	**3.92**	**0.01**	**0.84**	**0.10**	**0.93**	**0.04**	**0.10**	**0.14**		**983.09**		**0.04**		**983.81**

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	3.79	22.54	25.25	0.04		1.84	1.84		1.84	1.84	0.00	4,040.61		0.39		4,048.81
Total	**3.79**	**22.54**	**25.25**	**0.04**		**1.84**	**1.84**		**1.84**	**1.84**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.18	2.33	1.19	0.00	0.16	0.08	0.23	0.01	0.08	0.09		467.85		0.01		468.04
Worker	0.24	0.23	2.73	0.01	0.68	0.02	0.70	0.03	0.02	0.05		515.24		0.03		515.77
Total	**0.42**	**2.56**	**3.92**	**0.01**	**0.84**	**0.10**	**0.93**	**0.04**	**0.10**	**0.14**		**983.09**		**0.04**		**983.81**

3.5 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	37.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.41	2.57	1.90	0.00		0.22	0.22		0.22	0.22		281.19		0.04		281.96
Total	**38.04**	**2.57**	**1.90**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**		**281.19**		**0.04**		**281.96**

3.5 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.56	0.00	0.14	0.00	0.14	0.01	0.00	0.01		105.39		0.01		105.50
Total	**0.05**	**0.05**	**0.56**	**0.00**	**0.14**	**0.00**	**0.14**	**0.01**	**0.00**	**0.01**		**105.39**		**0.01**		**105.50**

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	37.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.41	2.57	1.90	0.00		0.22	0.22		0.22	0.22	0.00	281.19		0.04		281.96
Total	**38.04**	**2.57**	**1.90**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**281.19**		**0.04**		**281.96**

3.5 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.56	0.00	0.14	0.00	0.14	0.01	0.00	0.01		105.39		0.01		105.50
Total	**0.05**	**0.05**	**0.56**	**0.00**	**0.14**	**0.00**	**0.14**	**0.01**	**0.00**	**0.01**		**105.39**		**0.01**		**105.50**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.89	30.10	20.54	0.03		2.54	2.54		2.54	2.54		2,917.65		0.44		2,926.87
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.89**	**30.10**	**20.54**	**0.03**		**2.54**	**2.54**		**2.54**	**2.54**		**2,917.65**		**0.44**		**2,926.87**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.08**	**0.08**	**0.93**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.65**		**0.01**		**175.83**

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	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.65		0.44		2,926.87
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.65**		**0.44**		**2,926.87**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.08**	**0.08**	**0.93**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.65**		**0.01**		**175.83**

4.0 Mobile Detail

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	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
Unmitigated	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
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Recreational	8.90	13.30	7.40	0.00	0.00	0.00

5.0 Energy Detail

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
User Defined Recreational	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Recreational	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.66					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.06					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**2.72**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.66					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.06					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**2.72**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 1

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Recreational	104	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - Community Center approximately 104,000 sqft
Lot size approximately 12.5 acres

Construction Phase - Demo: 4/1/2013 - 6/30/2013
Grading: 7/1/2013 - 9/30/2013
Building: 10/1/2013 - 3/31/2015
Coating: 1/1/2015 - 3/31/2015
Paving: 2/1/2015 - 3/31/2015

Demolition - Approximately 42,200 sqft of demolition

Grading - Lot size approximately 12.5 acres

Construction Off-road Equipment Mitigation - Construction Mitigation: Tier 3 Engines

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					
2013	11.98	97.61	54.13	0.10	6.53	4.60	11.13	3.32	4.60	7.92	0.00	11,072.62	0.00	1.07	0.00	11,095.13
2014	5.21	34.97	27.29	0.05	0.83	2.13	2.96	0.04	2.13	2.17	0.00	4,970.39	0.00	0.46	0.00	4,980.04
2015	38.08	31.79	26.73	0.05	0.83	2.55	2.78	0.04	2.55	2.56	0.00	4,960.25	0.00	0.45	0.00	4,969.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

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					
2013	7.92	50.39	57.94	0.10	4.96	3.43	7.66	1.30	3.43	4.74	0.00	11,072.62	0.00	1.07	0.00	11,095.13
2014	4.41	25.93	29.45	0.05	0.83	2.00	2.83	0.04	2.00	2.04	0.00	4,970.39	0.00	0.46	0.00	4,980.04
2015	38.08	25.18	29.00	0.05	0.83	1.93	2.77	0.04	1.93	1.97	0.00	4,960.25	0.00	0.45	0.00	4,969.64
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	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
Total	**2.72**	**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**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	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
Total	**2.72**	**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

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2013

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					0.64	0.00	0.64	0.00	0.00	0.00						0.00
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**	**0.64**	**3.50**	**4.14**	**0.00**	**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

3.2 Demolition - 2013

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	0.14	1.63	0.79	0.00	4.48	0.07	4.54	0.01	0.07	0.08		240.15		0.01		240.29
Vendor	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
Worker	0.10	0.11	0.97	0.00	0.23	0.01	0.24	0.01	0.01	0.02		161.97		0.01		162.17
Total	**0.24**	**1.74**	**1.76**	**0.00**	**4.71**	**0.08**	**4.78**	**0.02**	**0.08**	**0.10**		**402.12**		**0.02**		**402.46**

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					0.25	0.00	0.25	0.00	0.00	0.00						0.00
Off-Road	5.72	37.37	40.72	0.07		2.63	2.63		2.63	2.63	0.00	7,510.81		0.80		7,527.57
Total	**5.72**	**37.37**	**40.72**	**0.07**	**0.25**	**2.63**	**2.88**	**0.00**	**2.63**	**2.63**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

3.2 Demolition - 2013

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	0.14	1.63	0.79	0.00	4.48	0.07	4.54	0.01	0.07	0.08		240.15		0.01		240.29
Vendor	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
Worker	0.10	0.11	0.97	0.00	0.23	0.01	0.24	0.01	0.01	0.02		161.97		0.01		162.17
Total	**0.24**	**1.74**	**1.76**	**0.00**	**4.71**	**0.08**	**4.78**	**0.02**	**0.08**	**0.10**		**402.12**		**0.02**		**402.46**

3.3 Grading - 2013

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					6.22	0.00	6.22	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**6.22**	**4.59**	**10.81**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

3.3 Grading - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.14	1.29	0.00	0.31	0.01	0.32	0.01	0.01	0.02		215.96		0.01		216.23
Total	**0.13**	**0.14**	**1.29**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**215.96**		**0.01**		**216.23**

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					2.43	0.00	2.43	1.29	0.00	1.29						0.00
Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.66		1.06		10,878.90
Total	**7.79**	**50.25**	**56.65**	**0.10**	**2.43**	**3.43**	**5.86**	**1.29**	**3.43**	**4.72**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

3.3 Grading - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.13	0.14	1.29	0.00	0.31	0.01	0.32	0.01	0.01	0.02		215.96		0.01		216.23
Total	**0.13**	**0.14**	**1.29**	**0.00**	**0.31**	**0.01**	**0.32**	**0.01**	**0.01**	**0.02**		**215.96**		**0.01**		**216.23**

3.4 Building Construction - 2013

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	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

3.4 Building Construction - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.23	2.89	1.61	0.00	0.16	0.10	0.25	0.01	0.10	0.11		462.53		0.01		462.77
Worker	0.28	0.31	2.84	0.00	0.68	0.02	0.69	0.03	0.02	0.04		475.12		0.03		475.70
Total	**0.51**	**3.20**	**4.45**	**0.00**	**0.84**	**0.12**	**0.94**	**0.04**	**0.12**	**0.15**		**937.65**		**0.04**		**938.47**

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	4.08	23.47	25.47	0.04		1.95	1.95		1.95	1.95	0.00	4,040.62		0.46		4,050.31
Total	**4.08**	**23.47**	**25.47**	**0.04**		**1.95**	**1.95**		**1.95**	**1.95**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

3.4 Building Construction - 2013

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.23	2.89	1.61	0.00	0.16	0.10	0.25	0.01	0.10	0.11		462.53		0.01		462.77
Worker	0.28	0.31	2.84	0.00	0.68	0.02	0.69	0.03	0.02	0.04		475.12		0.03		475.70
Total	**0.51**	**3.20**	**4.45**	**0.00**	**0.84**	**0.12**	**0.94**	**0.04**	**0.12**	**0.15**		**937.65**		**0.04**		**938.47**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

3.4 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.21	2.62	1.50	0.00	0.16	0.09	0.24	0.01	0.09	0.10		463.42		0.01		463.64
Worker	0.26	0.28	2.59	0.00	0.68	0.02	0.69	0.03	0.02	0.04		466.36		0.03		466.89
Total	**0.47**	**2.90**	**4.09**	**0.00**	**0.84**	**0.11**	**0.93**	**0.04**	**0.11**	**0.14**		**929.78**		**0.04**		**930.53**

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	3.93	23.03	25.35	0.04		1.89	1.89		1.89	1.89	0.00	4,040.61		0.42		4,049.51
Total	**3.93**	**23.03**	**25.35**	**0.04**		**1.89**	**1.89**		**1.89**	**1.89**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

3.4 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.21	2.62	1.50	0.00	0.16	0.09	0.24	0.01	0.09	0.10		463.42		0.01		463.64
Worker	0.26	0.28	2.59	0.00	0.68	0.02	0.69	0.03	0.02	0.04		466.36		0.03		466.89
Total	**0.47**	**2.90**	**4.09**	**0.00**	**0.84**	**0.11**	**0.93**	**0.04**	**0.11**	**0.14**		**929.78**		**0.04**		**930.53**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.19	2.39	1.38	0.00	0.16	0.08	0.24	0.01	0.08	0.09		463.79		0.01		463.99
Worker	0.24	0.25	2.36	0.00	0.68	0.02	0.70	0.03	0.02	0.05		455.85		0.02		456.34
Total	**0.43**	**2.64**	**3.74**	**0.00**	**0.84**	**0.10**	**0.94**	**0.04**	**0.10**	**0.14**		**919.64**		**0.03**		**920.33**

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	3.79	22.54	25.25	0.04		1.84	1.84		1.84	1.84	0.00	4,040.61		0.39		4,048.81
Total	**3.79**	**22.54**	**25.25**	**0.04**		**1.84**	**1.84**		**1.84**	**1.84**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.19	2.39	1.38	0.00	0.16	0.08	0.24	0.01	0.08	0.09		463.79		0.01		463.99
Worker	0.24	0.25	2.36	0.00	0.68	0.02	0.70	0.03	0.02	0.05		455.85		0.02		456.34
Total	**0.43**	**2.64**	**3.74**	**0.00**	**0.84**	**0.10**	**0.94**	**0.04**	**0.10**	**0.14**		**919.64**		**0.03**		**920.33**

3.5 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	37.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.41	2.57	1.90	0.00		0.22	0.22		0.22	0.22		281.19		0.04		281.96
Total	**38.04**	**2.57**	**1.90**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**		**281.19**		**0.04**		**281.96**

3.5 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.48	0.00	0.14	0.00	0.14	0.01	0.00	0.01		93.24		0.00		93.34
Total	**0.05**	**0.05**	**0.48**	**0.00**	**0.14**	**0.00**	**0.14**	**0.01**	**0.00**	**0.01**		**93.24**		**0.00**		**93.34**

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	37.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.41	2.57	1.90	0.00		0.22	0.22		0.22	0.22	0.00	281.19		0.04		281.96
Total	**38.04**	**2.57**	**1.90**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**281.19**		**0.04**		**281.96**

3.5 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.48	0.00	0.14	0.00	0.14	0.01	0.00	0.01		93.24		0.00		93.34
Total	**0.05**	**0.05**	**0.48**	**0.00**	**0.14**	**0.00**	**0.14**	**0.01**	**0.00**	**0.01**		**93.24**		**0.00**		**93.34**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.89	30.10	20.54	0.03		2.54	2.54		2.54	2.54		2,917.65		0.44		2,926.87
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.89**	**30.10**	**20.54**	**0.03**		**2.54**	**2.54**		**2.54**	**2.54**		**2,917.65**		**0.44**		**2,926.87**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.08**	**0.09**	**0.81**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**155.40**		**0.01**		**155.57**

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	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.65		0.44		2,926.87
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.65**		**0.44**		**2,926.87**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.08**	**0.09**	**0.81**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**155.40**		**0.01**		**155.57**

4.0 Mobile Detail

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	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
Unmitigated	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
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Recreational	8.90	13.30	7.40	0.00	0.00	0.00

5.0 Energy Detail

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	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
User Defined Recreational	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Recreational	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

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	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	2.72	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.66					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.06					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**2.72**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.66					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.06					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**2.72**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 2A

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	12	1000sqft
Apartments Low Rise	104	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 12,000 sqft administration center, 0.5 acre lot
104 residential units in 102,780 sqft of space, 7 acre lot

Construction Phase - Demo: 1/1/2015 - 3/31/2015
Grading: 4/1/2015 - 6/30/2015
Building: 7/1/2015 - 12/31/2016
Coating: 10/1/2016 - 12/31/2016
Paving: 11/1/2016 - 12/31/2016

Demolition - Demolition - 43,400 sqft.

Grading - Total acreage disturbed is 7.5 acres.

Construction Off-road Equipment Mitigation -

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					
2015	8.10	62.36	41.18	0.08	6.37	2.98	8.61	3.32	2.98	5.55	0.00	7,939.55	0.00	0.72	0.00	7,954.70
2016	17.08	28.54	28.16	0.06	1.33	1.67	3.01	0.05	1.67	1.73	0.00	5,313.70	0.00	0.41	0.00	5,322.23
2017	17.04	26.49	21.02	0.03	0.25	2.18	2.41	0.01	2.18	2.19	0.00	3,087.24	0.00	0.39	0.00	3,095.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

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					
2015	2.61	10.02	39.23	0.08	5.08	0.63	5.71	1.30	0.63	1.44	0.00	7,939.55	0.00	0.72	0.00	7,954.70
2016	17.08	5.84	30.22	0.06	1.33	0.33	1.67	0.05	0.33	0.39	0.00	5,313.70	0.00	0.41	0.00	5,322.23
2017	17.04	2.25	19.78	0.03	0.25	0.18	0.43	0.01	0.18	0.19	0.00	3,087.24	0.00	0.39	0.00	3,095.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Energy	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Mobile	3.40	8.63	29.09	0.09	9.62	0.40	10.02	0.14	0.39	0.53		7,712.22		0.24		7,717.30
Total	**17.35**	**9.69**	**72.40**	**0.17**	**9.62**	**0.40**	**15.61**	**0.14**	**0.39**	**6.12**	**733.90**	**10,178.38**		**3.17**	**0.05**	**10,996.13**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Energy	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Mobile	3.40	8.63	29.09	0.09	9.62	0.40	10.02	0.14	0.39	0.53		7,712.22		0.24		7,717.30
Total	**17.35**	**9.69**	**72.40**	**0.17**	**9.62**	**0.40**	**15.61**	**0.14**	**0.39**	**6.12**	**733.90**	**10,178.38**		**3.17**	**0.05**	**10,996.13**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					0.67	0.00	0.67	0.00	0.00	0.00						0.00
Off-Road	7.90	60.98	39.63	0.07		2.92	2.92		2.92	2.92		7,510.81		0.71		7,525.67
Total	**7.90**	**60.98**	**39.63**	**0.07**	**0.67**	**2.92**	**3.59**	**0.00**	**2.92**	**2.92**		**7,510.81**		**0.71**		**7,525.67**

3.2 Demolition - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.30	0.62	0.00	4.59	0.05	4.65	0.01	0.05	0.06		253.08		0.01		253.20
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.19**	**1.38**	**1.55**	**0.00**	**4.82**	**0.06**	**4.89**	**0.02**	**0.06**	**0.08**		**428.73**		**0.02**		**429.03**

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					0.26	0.00	0.26	0.00	0.00	0.00						0.00
Off-Road	2.42	8.64	37.68	0.07		0.57	0.57		0.57	0.57	0.00	7,510.81		0.71		7,525.67
Total	**2.42**	**8.64**	**37.68**	**0.07**	**0.26**	**0.57**	**0.83**	**0.00**	**0.57**	**0.57**	**0.00**	**7,510.81**		**0.71**		**7,525.67**

3.2 Demolition - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.30	0.62	0.00	4.59	0.05	4.65	0.01	0.05	0.06		253.08		0.01		253.20
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.19**	**1.38**	**1.55**	**0.00**	**4.82**	**0.06**	**4.89**	**0.02**	**0.06**	**0.08**		**428.73**		**0.02**		**429.03**

3.3 Grading - 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					
Fugitive Dust					6.14	0.00	6.14	3.31	0.00	3.31						0.00
Off-Road	5.59	41.92	29.44	0.05		2.23	2.23		2.23	2.23		5,240.06		0.50		5,250.58
Total	**5.59**	**41.92**	**29.44**	**0.05**	**6.14**	**2.23**	**8.37**	**3.31**	**2.23**	**5.54**		**5,240.06**		**0.50**		**5,250.58**

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.08**	**0.08**	**0.93**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.65**		**0.01**		**175.83**

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					2.40	0.00	2.40	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.06		0.50		5,250.58
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.40**	**0.14**	**2.54**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.06**		**0.50**		**5,250.58**

3.3 Grading - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.93	0.00	0.23	0.01	0.24	0.01	0.01	0.02		175.65		0.01		175.83
Total	**0.08**	**0.08**	**0.93**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**175.65**		**0.01**		**175.83**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.14	1.78	0.91	0.00	0.12	0.06	0.18	0.01	0.06	0.07		357.77		0.01		357.92
Worker	0.43	0.41	4.90	0.01	1.21	0.04	1.25	0.05	0.04	0.08		925.09		0.05		926.05
Total	**0.57**	**2.19**	**5.81**	**0.01**	**1.33**	**0.10**	**1.43**	**0.06**	**0.10**	**0.15**		**1,282.86**		**0.06**		**1,283.97**

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	1.66	3.89	24.92	0.04		0.26	0.26		0.26	0.26	0.00	4,040.61		0.39		4,048.81
Total	**1.66**	**3.89**	**24.92**	**0.04**		**0.26**	**0.26**		**0.26**	**0.26**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.14	1.78	0.91	0.00	0.12	0.06	0.18	0.01	0.06	0.07		357.77		0.01		357.92
Worker	0.43	0.41	4.90	0.01	1.21	0.04	1.25	0.05	0.04	0.08		925.09		0.05		926.05
Total	**0.57**	**2.19**	**5.81**	**0.01**	**1.33**	**0.10**	**1.43**	**0.06**	**0.10**	**0.15**		**1,282.86**		**0.06**		**1,283.97**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58		4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**		**4,040.61**		**0.36**		**4,048.10**

3.4 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.64	0.85	0.00	0.12	0.05	0.17	0.01	0.05	0.06		359.39		0.01		359.52
Worker	0.41	0.38	4.51	0.01	1.21	0.04	1.25	0.05	0.04	0.08		913.70		0.04		914.60
Total	**0.54**	**2.02**	**5.36**	**0.01**	**1.33**	**0.09**	**1.42**	**0.06**	**0.09**	**0.14**		**1,273.09**		**0.05**		**1,274.12**

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	1.60	3.82	24.86	0.04		0.24	0.24		0.24	0.24	0.00	4,040.61		0.36		4,048.10
Total	**1.60**	**3.82**	**24.86**	**0.04**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**4,040.61**		**0.36**		**4,048.10**

3.4 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.64	0.85	0.00	0.12	0.05	0.17	0.01	0.05	0.06		359.39		0.01		359.52
Worker	0.41	0.38	4.51	0.01	1.21	0.04	1.25	0.05	0.04	0.08		913.70		0.04		914.60
Total	**0.54**	**2.02**	**5.36**	**0.01**	**1.33**	**0.09**	**1.42**	**0.06**	**0.09**	**0.14**		**1,273.09**		**0.05**		**1,274.12**

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**17.00**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

3.5 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.91	0.00	0.25	0.01	0.25	0.01	0.01	0.02		185.05		0.01		185.24
Total	**0.08**	**0.08**	**0.91**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**185.05**		**0.01**		**185.24**

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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20	0.00	281.19		0.03		281.89
Total	**17.00**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**281.19**		**0.03**		**281.89**

3.5 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.91	0.00	0.25	0.01	0.25	0.01	0.01	0.02		185.05		0.01		185.24
Total	**0.08**	**0.08**	**0.91**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**185.05**		**0.01**		**185.24**

3.5 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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.33	2.18	1.87	0.00		0.17	0.17		0.17	0.17		281.19		0.03		281.81
Total	**16.96**	**2.18**	**1.87**	**0.00**		**0.17**	**0.17**		**0.17**	**0.17**		**281.19**		**0.03**		**281.81**

3.5 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.07	0.84	0.00	0.25	0.01	0.25	0.01	0.01	0.02		180.90		0.01		181.07
Total	**0.08**	**0.07**	**0.84**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**180.90**		**0.01**		**181.07**

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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.33	2.18	1.87	0.00		0.17	0.17		0.17	0.17	0.00	281.19		0.03		281.81
Total	**16.96**	**2.18**	**1.87**	**0.00**		**0.17**	**0.17**		**0.17**	**0.17**	**0.00**	**281.19**		**0.03**		**281.81**

3.5 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.07	0.84	0.00	0.25	0.01	0.25	0.01	0.01	0.02		180.90		0.01		181.07
Total	**0.08**	**0.07**	**0.84**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**180.90**		**0.01**		**181.07**

3.6 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	4.29	26.42	20.24	0.03		2.17	2.17		2.17	2.17		2,917.65		0.39		2,925.76
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.29**	**26.42**	**20.24**	**0.03**		**2.17**	**2.17**		**2.17**	**2.17**		**2,917.65**		**0.39**		**2,925.76**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.78	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.59		0.01		169.75
Total	**0.07**	**0.07**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**169.59**		**0.01**		**169.75**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.39		2,925.76
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.39**		**2,925.76**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.78	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.59		0.01		169.75
Total	**0.07**	**0.07**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**169.59**		**0.01**		**169.75**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.40	8.63	29.09	0.09	9.62	0.40	10.02	0.14	0.39	0.53		7,712.22		0.24		7,717.30
Unmitigated	3.40	8.63	29.09	0.09	9.62	0.40	10.02	0.14	0.39	0.53		7,712.22		0.24		7,717.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	685.36	744.64	631.28	2,285,117	2,285,117
General Office Building	132.12	28.44	11.76	319,714	319,714
Total	817.48	773.08	643.04	2,604,831	2,604,831

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00

5.0 Energy Detail

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	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
NaturalGas Unmitigated	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	4797.41	0.05	0.44	0.19	0.00		0.00	0.04		0.00	0.04		564.40		0.01	0.01	567.84
General Office Building	120	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Total		**0.05**	**0.45**	**0.20**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**		**578.52**		**0.01**	**0.01**	**582.04**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	4.79741	0.05	0.44	0.19	0.00		0.00	0.04		0.00	0.04		564.40		0.01	0.01	567.84
General Office Building	0.12	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Total		**0.05**	**0.45**	**0.20**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**		**578.52**		**0.01**	**0.01**	**582.04**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Unmitigated	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.30					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.27					0.00	0.00		0.00	0.00						0.00
Hearth	11.07	0.51	34.42	0.08		0.00	5.50		0.00	5.50	733.90	1,872.00		2.91	0.04	2,680.83
Landscaping	0.26	0.10	8.68	0.00		0.00	0.05		0.00	0.05		15.64		0.02		15.95
Total	**13.90**	**0.61**	**43.10**	**0.08**		**0.00**	**5.55**		**0.00**	**5.55**	**733.90**	**1,887.64**		**2.93**	**0.04**	**2,696.78**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.30					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.27					0.00	0.00		0.00	0.00						0.00
Hearth	11.07	0.51	34.42	0.08		0.00	5.50		0.00	5.50	733.90	1,872.00		2.91	0.04	2,680.83
Landscaping	0.26	0.10	8.68	0.00		0.00	0.05		0.00	0.05		15.64		0.02		15.95
Total	**13.90**	**0.61**	**43.10**	**0.08**		**0.00**	**5.55**		**0.00**	**5.55**	**733.90**	**1,887.64**		**2.93**	**0.04**	**2,696.78**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 2A

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	12	1000sqft
Apartments Low Rise	104	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 12,000 sqft administration center, 0.5 acre lot
104 residential units in 102,780 sqft of space, 7 acre lot

Construction Phase - Demo: 1/1/2015 - 3/31/2015
Grading: 4/1/2015 - 6/30/2015
Building: 7/1/2015 - 12/31/2016
Coating: 10/1/2016 - 12/31/2016
Paving: 11/1/2016 - 12/31/2016

Demolition - Demolition - 43,400 sqft.

Grading - Total acreage disturbed is 7.5 acres.

Construction Off-road Equipment Mitigation -

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					
2015	8.10	62.42	41.12	0.08	6.37	2.98	8.61	3.32	2.98	5.55	0.00	7,917.83	0.00	0.72	0.00	7,932.97
2016	17.08	28.61	27.70	0.06	1.33	1.67	3.01	0.05	1.67	1.73	0.00	5,205.21	0.00	0.40	0.00	5,213.67
2017	17.04	26.49	20.91	0.03	0.25	2.18	2.41	0.01	2.18	2.19	0.00	3,067.65	0.00	0.39	0.00	3,075.91
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

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					
2015	2.62	10.08	39.17	0.08	5.08	0.63	5.71	1.30	0.63	1.44	0.00	7,917.83	0.00	0.72	0.00	7,932.97
2016	17.08	5.91	29.75	0.06	1.33	0.33	1.67	0.05	0.33	0.39	0.00	5,205.21	0.00	0.40	0.00	5,213.67
2017	17.04	2.26	19.67	0.03	0.25	0.18	0.43	0.01	0.18	0.19	0.00	3,067.65	0.00	0.39	0.00	3,075.91
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Energy	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Mobile	3.43	8.91	27.09	0.08	9.62	0.41	10.02	0.14	0.39	0.53		7,055.88		0.22		7,060.42
Total	**17.38**	**9.97**	**70.40**	**0.16**	**9.62**	**0.41**	**15.61**	**0.14**	**0.39**	**6.12**	**733.90**	**9,522.04**		**3.15**	**0.05**	**10,339.25**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Energy	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Mobile	3.43	8.91	27.09	0.08	9.62	0.41	10.02	0.14	0.39	0.53		7,055.88		0.22		7,060.42
Total	**17.38**	**9.97**	**70.40**	**0.16**	**9.62**	**0.41**	**15.61**	**0.14**	**0.39**	**6.12**	**733.90**	**9,522.04**		**3.15**	**0.05**	**10,339.25**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					0.67	0.00	0.67	0.00	0.00	0.00						0.00
Off-Road	7.90	60.98	39.63	0.07		2.92	2.92		2.92	2.92		7,510.81		0.71		7,525.67
Total	**7.90**	**60.98**	**39.63**	**0.07**	**0.67**	**2.92**	**3.59**	**0.00**	**2.92**	**2.92**		**7,510.81**		**0.71**		**7,525.67**

3.2 Demolition - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.12	1.35	0.69	0.00	4.59	0.05	4.65	0.01	0.05	0.06		251.61		0.01		251.73
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.20**	**1.44**	**1.50**	**0.00**	**4.82**	**0.06**	**4.89**	**0.02**	**0.06**	**0.08**		**407.01**		**0.02**		**407.30**

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					0.26	0.00	0.26	0.00	0.00	0.00						0.00
Off-Road	2.42	8.64	37.68	0.07		0.57	0.57		0.57	0.57	0.00	7,510.81		0.71		7,525.67
Total	**2.42**	**8.64**	**37.68**	**0.07**	**0.26**	**0.57**	**0.83**	**0.00**	**0.57**	**0.57**	**0.00**	**7,510.81**		**0.71**		**7,525.67**

3.2 Demolition - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.12	1.35	0.69	0.00	4.59	0.05	4.65	0.01	0.05	0.06		251.61		0.01		251.73
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.20**	**1.44**	**1.50**	**0.00**	**4.82**	**0.06**	**4.89**	**0.02**	**0.06**	**0.08**		**407.01**		**0.02**		**407.30**

3.3 Grading - 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					
Fugitive Dust					6.14	0.00	6.14	3.31	0.00	3.31						0.00
Off-Road	5.59	41.92	29.44	0.05		2.23	2.23		2.23	2.23		5,240.06		0.50		5,250.58
Total	**5.59**	**41.92**	**29.44**	**0.05**	**6.14**	**2.23**	**8.37**	**3.31**	**2.23**	**5.54**		**5,240.06**		**0.50**		**5,250.58**

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.08**	**0.09**	**0.81**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**155.40**		**0.01**		**155.57**

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					2.40	0.00	2.40	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.06		0.50		5,250.58
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.40**	**0.14**	**2.54**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.06**		**0.50**		**5,250.58**

3.3 Grading - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.09	0.81	0.00	0.23	0.01	0.24	0.01	0.01	0.02		155.40		0.01		155.57
Total	**0.08**	**0.09**	**0.81**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**155.40**		**0.01**		**155.57**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.15	1.82	1.06	0.00	0.12	0.06	0.18	0.01	0.06	0.07		354.66		0.01		354.82
Worker	0.44	0.46	4.24	0.01	1.21	0.04	1.25	0.05	0.04	0.08		818.45		0.04		819.33
Total	**0.59**	**2.28**	**5.30**	**0.01**	**1.33**	**0.10**	**1.43**	**0.06**	**0.10**	**0.15**		**1,173.11**		**0.05**		**1,174.15**

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	1.66	3.89	24.92	0.04		0.26	0.26		0.26	0.26	0.00	4,040.61		0.39		4,048.81
Total	**1.66**	**3.89**	**24.92**	**0.04**		**0.26**	**0.26**		**0.26**	**0.26**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.15	1.82	1.06	0.00	0.12	0.06	0.18	0.01	0.06	0.07		354.66		0.01		354.82
Worker	0.44	0.46	4.24	0.01	1.21	0.04	1.25	0.05	0.04	0.08		818.45		0.04		819.33
Total	**0.59**	**2.28**	**5.30**	**0.01**	**1.33**	**0.10**	**1.43**	**0.06**	**0.10**	**0.15**		**1,173.11**		**0.05**		**1,174.15**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58		4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**		**4,040.61**		**0.36**		**4,048.10**

3.4 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.14	1.67	0.99	0.00	0.12	0.05	0.17	0.01	0.05	0.06		356.23		0.01		356.37
Worker	0.41	0.42	3.90	0.01	1.21	0.04	1.25	0.05	0.04	0.08		808.37		0.04		809.20
Total	**0.55**	**2.09**	**4.89**	**0.01**	**1.33**	**0.09**	**1.42**	**0.06**	**0.09**	**0.14**		**1,164.60**		**0.05**		**1,165.57**

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	1.60	3.82	24.86	0.04		0.24	0.24		0.24	0.24	0.00	4,040.61		0.36		4,048.10
Total	**1.60**	**3.82**	**24.86**	**0.04**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**4,040.61**		**0.36**		**4,048.10**

3.4 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.14	1.67	0.99	0.00	0.12	0.05	0.17	0.01	0.05	0.06		356.23		0.01		356.37
Worker	0.41	0.42	3.90	0.01	1.21	0.04	1.25	0.05	0.04	0.08		808.37		0.04		809.20
Total	**0.55**	**2.09**	**4.89**	**0.01**	**1.33**	**0.09**	**1.42**	**0.06**	**0.09**	**0.14**		**1,164.60**		**0.05**		**1,165.57**

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**17.00**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

3.5 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.79	0.00	0.25	0.01	0.25	0.01	0.01	0.02		163.72		0.01		163.89
Total	**0.08**	**0.08**	**0.79**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**163.72**		**0.01**		**163.89**

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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20	0.00	281.19		0.03		281.89
Total	**17.00**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**281.19**		**0.03**		**281.89**

3.5 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.79	0.00	0.25	0.01	0.25	0.01	0.01	0.02		163.72		0.01		163.89
Total	**0.08**	**0.08**	**0.79**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**163.72**		**0.01**		**163.89**

3.5 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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.33	2.18	1.87	0.00		0.17	0.17		0.17	0.17		281.19		0.03		281.81
Total	**16.96**	**2.18**	**1.87**	**0.00**		**0.17**	**0.17**		**0.17**	**0.17**		**281.19**		**0.03**		**281.81**

3.5 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.72	0.00	0.25	0.01	0.25	0.01	0.01	0.02		160.01		0.01		160.16
Total	**0.08**	**0.08**	**0.72**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**160.01**		**0.01**		**160.16**

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	16.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.33	2.18	1.87	0.00		0.17	0.17		0.17	0.17	0.00	281.19		0.03		281.81
Total	**16.96**	**2.18**	**1.87**	**0.00**		**0.17**	**0.17**		**0.17**	**0.17**	**0.00**	**281.19**		**0.03**		**281.81**

3.5 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.72	0.00	0.25	0.01	0.25	0.01	0.01	0.02		160.01		0.01		160.16
Total	**0.08**	**0.08**	**0.72**	**0.00**	**0.25**	**0.01**	**0.25**	**0.01**	**0.01**	**0.02**		**160.01**		**0.01**		**160.16**

3.6 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	4.29	26.42	20.24	0.03		2.17	2.17		2.17	2.17		2,917.65		0.39		2,925.76
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.29**	**26.42**	**20.24**	**0.03**		**2.17**	**2.17**		**2.17**	**2.17**		**2,917.65**		**0.39**		**2,925.76**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.23	0.01	0.24	0.01	0.01	0.02		150.01		0.01		150.15
Total	**0.07**	**0.07**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**150.01**		**0.01**		**150.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.39		2,925.76
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.39**		**2,925.76**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.23	0.01	0.24	0.01	0.01	0.02		150.01		0.01		150.15
Total	**0.07**	**0.07**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**150.01**		**0.01**		**150.15**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.43	8.91	27.09	0.08	9.62	0.41	10.02	0.14	0.39	0.53		7,055.88		0.22		7,060.42
Unmitigated	3.43	8.91	27.09	0.08	9.62	0.41	10.02	0.14	0.39	0.53		7,055.88		0.22		7,060.42
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	685.36	744.64	631.28	2,285,117	2,285,117
General Office Building	132.12	28.44	11.76	319,714	319,714
Total	817.48	773.08	643.04	2,604,831	2,604,831

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00

5.0 Energy Detail

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	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
NaturalGas Unmitigated	0.05	0.45	0.20	0.00		0.00	0.04		0.00	0.04		578.52		0.01	0.01	582.04
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	4797.41	0.05	0.44	0.19	0.00		0.00	0.04		0.00	0.04		564.40		0.01	0.01	567.84
General Office Building	120	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Total		**0.05**	**0.45**	**0.20**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**		**578.52**		**0.01**	**0.01**	**582.04**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	4.79741	0.05	0.44	0.19	0.00		0.00	0.04		0.00	0.04		564.40		0.01	0.01	567.84
General Office Building	0.12	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Total		**0.05**	**0.45**	**0.20**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**		**578.52**		**0.01**	**0.01**	**582.04**

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	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Unmitigated	13.90	0.61	43.11	0.08		0.00	5.55		0.00	5.55	733.90	1,887.64		2.92	0.04	2,696.79
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.30					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.27					0.00	0.00		0.00	0.00						0.00
Hearth	11.07	0.51	34.42	0.08		0.00	5.50		0.00	5.50	733.90	1,872.00		2.91	0.04	2,680.83
Landscaping	0.26	0.10	8.68	0.00		0.00	0.05		0.00	0.05		15.64		0.02		15.95
Total	**13.90**	**0.61**	**43.10**	**0.08**		**0.00**	**5.55**		**0.00**	**5.55**	**733.90**	**1,887.64**		**2.93**	**0.04**	**2,696.78**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.30					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.27					0.00	0.00		0.00	0.00						0.00
Hearth	11.07	0.51	34.42	0.08		0.00	5.50		0.00	5.50	733.90	1,872.00		2.91	0.04	2,680.83
Landscaping	0.26	0.10	8.68	0.00		0.00	0.05		0.00	0.05		15.64		0.02		15.95
Total	**13.90**	**0.61**	**43.10**	**0.08**		**0.00**	**5.55**		**0.00**	**5.55**	**733.90**	**1,887.64**		**2.93**	**0.04**	**2,696.78**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 2B

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	85	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 85 dwelling units in 83,850 sqft of space, 5.4 acre lot

Construction Phase - Demo: 10/1/2016 - 12/31/2016
Grading: 1/1/2017 - 3/31/2017
Building: 4/1/2017 - 3/31/2018
Coating: 1/1/2018 - 3/31/2018
Paving: 2/1/2018 - 3/31/2018

Demolition - Demolition - building size is 47,000 sqft.

Construction Off-road Equipment Mitigation -

Grading - Grading - lot size is 5.4 acres.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	7.62	57.41	39.81	0.08	5.93	2.71	8.64	0.02	2.71	2.73	0.00	7,956.90	0.00	0.68	0.00	7,971.21
2017	4.96	35.28	28.92	0.05	6.34	1.79	8.13	3.32	1.79	5.11	0.00	5,409.66	0.00	0.44	0.00	5,418.96
2018	18.21	49.83	49.18	0.09	1.43	3.41	4.84	0.02	3.40	3.42	0.00	8,462.27	0.00	0.73	0.00	8,477.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.54	9.60	39.12	0.08	5.50	0.59	6.08	0.02	0.59	0.61	0.00	7,956.90	0.00	0.68	0.00	7,971.21
2017	1.91	5.08	29.32	0.05	2.61	0.29	2.76	1.30	0.29	1.44	0.00	5,409.66	0.00	0.44	0.00	5,418.96
2018	13.20	8.57	50.32	0.09	1.43	0.51	1.95	0.02	0.51	0.53	0.00	8,462.27	0.00	0.73	0.00	8,477.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Energy	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Mobile	2.37	6.02	20.30	0.06	6.72	0.28	7.00	0.10	0.27	0.37		5,385.75		0.17		5,389.30
Total	**13.51**	**6.88**	**55.68**	**0.13**	**6.72**	**0.28**	**11.56**	**0.10**	**0.27**	**4.93**	**599.82**	**7,389.82**		**2.57**	**0.05**	**8,057.50**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Energy	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Mobile	2.37	6.02	20.30	0.06	6.72	0.28	7.00	0.10	0.27	0.37		5,385.75		0.17		5,389.30
Total	**13.51**	**6.88**	**55.68**	**0.13**	**6.72**	**0.28**	**11.56**	**0.10**	**0.27**	**4.93**	**599.82**	**7,389.82**		**2.57**	**0.05**	**8,057.50**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.71	0.00	0.71	0.00	0.00	0.00						0.00
Off-Road	7.43	56.08	38.34	0.07		2.65	2.65		2.65	2.65		7,510.81		0.67		7,524.83
Total	**7.43**	**56.08**	**38.34**	**0.07**	**0.71**	**2.65**	**3.36**	**0.00**	**2.65**	**2.65**		**7,510.81**		**0.67**		**7,524.83**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.26	0.61	0.00	4.99	0.05	5.04	0.01	0.05	0.06		272.60		0.01		272.72
Vendor	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
Worker	0.08	0.07	0.86	0.00	0.23	0.01	0.24	0.01	0.01	0.02		173.49		0.01		173.66
Total	**0.19**	**1.33**	**1.47**	**0.00**	**5.22**	**0.06**	**5.28**	**0.02**	**0.06**	**0.08**		**446.09**		**0.02**		**446.38**

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					0.28	0.00	0.28	0.00	0.00	0.00						0.00
Off-Road	2.35	8.27	37.65	0.07		0.53	0.53		0.53	0.53	0.00	7,510.81		0.67		7,524.83
Total	**2.35**	**8.27**	**37.65**	**0.07**	**0.28**	**0.53**	**0.81**	**0.00**	**0.53**	**0.53**	**0.00**	**7,510.81**		**0.67**		**7,524.83**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.26	0.61	0.00	4.99	0.05	5.04	0.01	0.05	0.06		272.60		0.01		272.72
Vendor	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
Worker	0.08	0.07	0.86	0.00	0.23	0.01	0.24	0.01	0.01	0.02		173.49		0.01		173.66
Total	**0.19**	**1.33**	**1.47**	**0.00**	**5.22**	**0.06**	**5.28**	**0.02**	**0.06**	**0.08**		**446.09**		**0.02**		**446.38**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.11	0.00	6.11	3.31	0.00	3.31						0.00
Off-Road	4.88	35.22	28.14	0.05		1.78	1.78		1.78	1.78		5,240.06		0.44		5,249.21
Total	**4.88**	**35.22**	**28.14**	**0.05**	**6.11**	**1.78**	**7.89**	**3.31**	**1.78**	**5.09**		**5,240.06**		**0.44**		**5,249.21**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.78	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.59		0.01		169.75
Total	**0.07**	**0.07**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**169.59**		**0.01**		**169.75**

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					2.38	0.00	2.38	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.06		0.44		5,249.21
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.38**	**0.14**	**2.52**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.06**		**0.44**		**5,249.21**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.78	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.59		0.01		169.75
Total	**0.07**	**0.07**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**169.59**		**0.01**		**169.75**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.66	24.08	22.64	0.04		1.39	1.39		1.39	1.39		4,040.61		0.33		4,047.45
Total	**3.66**	**24.08**	**22.64**	**0.04**		**1.39**	**1.39**		**1.39**	**1.39**		**4,040.61**		**0.33**		**4,047.45**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	1.05	0.55	0.00	0.08	0.03	0.12	0.01	0.03	0.04		249.00		0.00		249.09
Worker	0.29	0.26	3.19	0.01	0.94	0.03	0.96	0.03	0.03	0.06		689.67		0.03		690.32
Total	**0.37**	**1.31**	**3.74**	**0.01**	**1.02**	**0.06**	**1.08**	**0.04**	**0.06**	**0.10**		**938.67**		**0.03**		**939.41**

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	1.53	3.76	24.80	0.04		0.23	0.23		0.23	0.23	0.00	4,040.61		0.33		4,047.45
Total	**1.53**	**3.76**	**24.80**	**0.04**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**4,040.61**		**0.33**		**4,047.45**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	1.05	0.55	0.00	0.08	0.03	0.12	0.01	0.03	0.04		249.00		0.00		249.09
Worker	0.29	0.26	3.19	0.01	0.94	0.03	0.96	0.03	0.03	0.06		689.67		0.03		690.32
Total	**0.37**	**1.31**	**3.74**	**0.01**	**1.02**	**0.06**	**1.08**	**0.04**	**0.06**	**0.10**		**938.67**		**0.03**		**939.41**

3.4 Building Construction - 2018

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	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.97	0.51	0.00	0.08	0.03	0.11	0.00	0.03	0.03		249.22		0.00		249.30
Worker	0.27	0.24	2.92	0.01	0.94	0.03	0.96	0.01	0.03	0.04		674.88		0.03		675.48
Total	**0.35**	**1.21**	**3.43**	**0.01**	**1.02**	**0.06**	**1.07**	**0.01**	**0.06**	**0.07**		**924.10**		**0.03**		**924.78**

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	1.48	3.70	24.75	0.04		0.21	0.21		0.21	0.21	0.00	4,040.62		0.30		4,046.87
Total	**1.48**	**3.70**	**24.75**	**0.04**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.97	0.51	0.00	0.08	0.03	0.11	0.00	0.03	0.03		249.22		0.00		249.30
Worker	0.27	0.24	2.92	0.01	0.94	0.03	0.96	0.01	0.03	0.04		674.88		0.03		675.48
Total	**0.35**	**1.21**	**3.43**	**0.01**	**1.02**	**0.06**	**1.07**	**0.01**	**0.06**	**0.07**		**924.10**		**0.03**		**924.78**

3.5 Architectural Coating - 2018

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	10.08					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75
Total	**10.38**	**2.00**	**1.85**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**		**281.19**		**0.03**		**281.75**

3.5 Architectural Coating - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.57	0.00	0.18	0.01	0.19	0.00	0.01	0.01		132.76		0.01		132.88
Total	**0.05**	**0.05**	**0.57**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**132.76**		**0.01**		**132.88**

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	10.08					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.03		281.75
Total	**10.38**	**2.00**	**1.85**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.03**		**281.75**

3.5 Architectural Coating - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.57	0.00	0.18	0.01	0.19	0.00	0.01	0.01		132.76		0.01		132.88
Total	**0.05**	**0.05**	**0.57**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**132.76**		**0.01**		**132.88**

3.6 Paving - 2018

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	4.02	24.73	20.10	0.03		1.99	1.99		1.99	1.99		2,917.65		0.36		2,925.22
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.02**	**24.73**	**20.10**	**0.03**		**1.99**	**1.99**		**1.99**	**1.99**		**2,917.65**		**0.36**		**2,925.22**

3.6 Paving - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.07**	**0.06**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**165.95**		**0.01**		**166.10**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.36		2,925.22
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.36**		**2,925.22**

3.6 Paving - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.07**	**0.06**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**165.95**		**0.01**		**166.10**

4.0 Mobile Detail

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	2.37	6.02	20.30	0.06	6.72	0.28	7.00	0.10	0.27	0.37		5,385.75		0.17		5,389.30
Unmitigated	2.37	6.02	20.30	0.06	6.72	0.28	7.00	0.10	0.27	0.37		5,385.75		0.17		5,389.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	560.15	608.60	515.95	1,867,643	1,867,643
Total	560.15	608.60	515.95	1,867,643	1,867,643

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
NaturalGas Unmitigated	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	3920.96	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total		**0.04**	**0.36**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**461.29**		**0.01**	**0.01**	**464.10**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	3.92096	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total		**0.04**	**0.36**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**461.29**		**0.01**	**0.01**	**464.10**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Unmitigated	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.18					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.66					0.00	0.00		0.00	0.00						0.00
Hearth	9.05	0.41	28.14	0.07		0.00	4.49		0.00	4.49	599.82	1,530.00		2.37	0.04	2,191.07
Landscaping	0.21	0.08	7.10	0.00		0.00	0.04		0.00	0.04		12.78		0.01		13.04
Total	**11.10**	**0.49**	**35.24**	**0.07**		**0.00**	**4.53**		**0.00**	**4.53**	**599.82**	**1,542.78**		**2.38**	**0.04**	**2,204.11**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.18					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.66					0.00	0.00		0.00	0.00						0.00
Hearth	9.05	0.41	28.14	0.07		0.00	4.49		0.00	4.49	599.82	1,530.00		2.37	0.04	2,191.07
Landscaping	0.21	0.08	7.10	0.00		0.00	0.04		0.00	0.04		12.78		0.01		13.04
Total	**11.10**	**0.49**	**35.24**	**0.07**		**0.00**	**4.53**		**0.00**	**4.53**	**599.82**	**1,542.78**		**2.38**	**0.04**	**2,204.11**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 2B

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	85	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 85 dwelling units in 83,850 sqft of space, 5.4 acre lot

Construction Phase - Demo: 10/1/2016 - 12/31/2016
Grading: 1/1/2017 - 3/31/2017
Building: 4/1/2017 - 3/31/2018
Coating: 1/1/2018 - 3/31/2018
Paving: 2/1/2018 - 3/31/2018

Demolition - Demolition - building size is 47,000 sqft.

Construction Off-road Equipment Mitigation -

Grading - Grading - lot size is 5.4 acres.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	7.62	57.46	39.77	0.08	5.93	2.71	8.64	0.02	2.71	2.73	0.00	7,935.30	0.00	0.68	0.00	7,949.59
2017	4.96	35.29	28.81	0.05	6.34	1.79	8.13	3.32	1.79	5.11	0.00	5,390.07	0.00	0.44	0.00	5,399.36
2018	18.21	49.88	48.68	0.09	1.43	3.41	4.84	0.02	3.40	3.43	0.00	8,347.38	0.00	0.73	0.00	8,362.63
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.54	9.65	39.07	0.08	5.50	0.59	6.08	0.02	0.59	0.61	0.00	7,935.30	0.00	0.68	0.00	7,949.59
2017	1.91	5.12	29.21	0.05	2.61	0.29	2.76	1.30	0.29	1.44	0.00	5,390.07	0.00	0.44	0.00	5,399.36
2018	13.20	8.62	49.83	0.09	1.43	0.51	1.95	0.02	0.51	0.53	0.00	8,347.38	0.00	0.73	0.00	8,362.63
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Energy	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Mobile	2.39	6.21	18.89	0.06	6.72	0.28	7.00	0.10	0.27	0.37		4,927.39		0.15		4,930.55
Total	**13.53**	**7.07**	**54.27**	**0.13**	**6.72**	**0.28**	**11.56**	**0.10**	**0.27**	**4.93**	**599.82**	**6,931.46**		**2.55**	**0.05**	**7,598.75**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Energy	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Mobile	2.39	6.21	18.89	0.06	6.72	0.28	7.00	0.10	0.27	0.37		4,927.39		0.15		4,930.55
Total	**13.53**	**7.07**	**54.27**	**0.13**	**6.72**	**0.28**	**11.56**	**0.10**	**0.27**	**4.93**	**599.82**	**6,931.46**		**2.55**	**0.05**	**7,598.75**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.71	0.00	0.71	0.00	0.00	0.00						0.00
Off-Road	7.43	56.08	38.34	0.07		2.65	2.65		2.65	2.65		7,510.81		0.67		7,524.83
Total	**7.43**	**56.08**	**38.34**	**0.07**	**0.71**	**2.65**	**3.36**	**0.00**	**2.65**	**2.65**		**7,510.81**		**0.67**		**7,524.83**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.30	0.68	0.00	4.99	0.05	5.04	0.01	0.05	0.06		271.00		0.01		271.12
Vendor	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
Worker	0.08	0.08	0.74	0.00	0.23	0.01	0.24	0.01	0.01	0.02		153.49		0.01		153.65
Total	**0.19**	**1.38**	**1.42**	**0.00**	**5.22**	**0.06**	**5.28**	**0.02**	**0.06**	**0.08**		**424.49**		**0.02**		**424.77**

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					0.28	0.00	0.28	0.00	0.00	0.00						0.00
Off-Road	2.35	8.27	37.65	0.07		0.53	0.53		0.53	0.53	0.00	7,510.81		0.67		7,524.83
Total	**2.35**	**8.27**	**37.65**	**0.07**	**0.28**	**0.53**	**0.81**	**0.00**	**0.53**	**0.53**	**0.00**	**7,510.81**		**0.67**		**7,524.83**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.11	1.30	0.68	0.00	4.99	0.05	5.04	0.01	0.05	0.06		271.00		0.01		271.12
Vendor	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
Worker	0.08	0.08	0.74	0.00	0.23	0.01	0.24	0.01	0.01	0.02		153.49		0.01		153.65
Total	**0.19**	**1.38**	**1.42**	**0.00**	**5.22**	**0.06**	**5.28**	**0.02**	**0.06**	**0.08**		**424.49**		**0.02**		**424.77**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.11	0.00	6.11	3.31	0.00	3.31						0.00
Off-Road	4.88	35.22	28.14	0.05		1.78	1.78		1.78	1.78		5,240.06		0.44		5,249.21
Total	**4.88**	**35.22**	**28.14**	**0.05**	**6.11**	**1.78**	**7.89**	**3.31**	**1.78**	**5.09**		**5,240.06**		**0.44**		**5,249.21**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.23	0.01	0.24	0.01	0.01	0.02		150.01		0.01		150.15
Total	**0.07**	**0.07**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**150.01**		**0.01**		**150.15**

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					2.38	0.00	2.38	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.06		0.44		5,249.21
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.38**	**0.14**	**2.52**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.06**		**0.44**		**5,249.21**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.07	0.68	0.00	0.23	0.01	0.24	0.01	0.01	0.02		150.01		0.01		150.15
Total	**0.07**	**0.07**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**150.01**		**0.01**		**150.15**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.66	24.08	22.64	0.04		1.39	1.39		1.39	1.39		4,040.61		0.33		4,047.45
Total	**3.66**	**24.08**	**22.64**	**0.04**		**1.39**	**1.39**		**1.39**	**1.39**		**4,040.61**		**0.33**		**4,047.45**

3.4 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	1.07	0.65	0.00	0.08	0.03	0.12	0.01	0.03	0.04		246.78		0.00		246.87
Worker	0.29	0.29	2.75	0.01	0.94	0.03	0.96	0.03	0.03	0.06		610.03		0.03		610.62
Total	**0.38**	**1.36**	**3.40**	**0.01**	**1.02**	**0.06**	**1.08**	**0.04**	**0.06**	**0.10**		**856.81**		**0.03**		**857.49**

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	1.53	3.76	24.80	0.04		0.23	0.23		0.23	0.23	0.00	4,040.61		0.33		4,047.45
Total	**1.53**	**3.76**	**24.80**	**0.04**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**4,040.61**		**0.33**		**4,047.45**

3.4 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	1.07	0.65	0.00	0.08	0.03	0.12	0.01	0.03	0.04		246.78		0.00		246.87
Worker	0.29	0.29	2.75	0.01	0.94	0.03	0.96	0.03	0.03	0.06		610.03		0.03		610.62
Total	**0.38**	**1.36**	**3.40**	**0.01**	**1.02**	**0.06**	**1.08**	**0.04**	**0.06**	**0.10**		**856.81**		**0.03**		**857.49**

3.4 Building Construction - 2018

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	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.99	0.61	0.00	0.08	0.03	0.11	0.00	0.03	0.03		246.96		0.00		247.05
Worker	0.27	0.26	2.51	0.01	0.94	0.03	0.96	0.01	0.03	0.04		596.80		0.03		597.35
Total	**0.35**	**1.25**	**3.12**	**0.01**	**1.02**	**0.06**	**1.07**	**0.01**	**0.06**	**0.07**		**843.76**		**0.03**		**844.40**

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	1.48	3.70	24.75	0.04		0.21	0.21		0.21	0.21	0.00	4,040.62		0.30		4,046.87
Total	**1.48**	**3.70**	**24.75**	**0.04**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.99	0.61	0.00	0.08	0.03	0.11	0.00	0.03	0.03		246.96		0.00		247.05
Worker	0.27	0.26	2.51	0.01	0.94	0.03	0.96	0.01	0.03	0.04		596.80		0.03		597.35
Total	**0.35**	**1.25**	**3.12**	**0.01**	**1.02**	**0.06**	**1.07**	**0.01**	**0.06**	**0.07**		**843.76**		**0.03**		**844.40**

3.5 Architectural Coating - 2018

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	10.08					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75
Total	**10.38**	**2.00**	**1.85**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**		**281.19**		**0.03**		**281.75**

3.5 Architectural Coating - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.49	0.00	0.18	0.01	0.19	0.00	0.01	0.01		117.40		0.01		117.51
Total	**0.05**	**0.05**	**0.49**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**117.40**		**0.01**		**117.51**

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	10.08					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.03		281.75
Total	**10.38**	**2.00**	**1.85**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.03**		**281.75**

3.5 Architectural Coating - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.05	0.49	0.00	0.18	0.01	0.19	0.00	0.01	0.01		117.40		0.01		117.51
Total	**0.05**	**0.05**	**0.49**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**117.40**		**0.01**		**117.51**

3.6 Paving - 2018

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	4.02	24.73	20.10	0.03		1.99	1.99		1.99	1.99		2,917.65		0.36		2,925.22
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.02**	**24.73**	**20.10**	**0.03**		**1.99**	**1.99**		**1.99**	**1.99**		**2,917.65**		**0.36**		**2,925.22**

3.6 Paving - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**146.75**		**0.01**		**146.89**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.36		2,925.22
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.36**		**2,925.22**

3.6 Paving - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**146.75**		**0.01**		**146.89**

4.0 Mobile Detail

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	2.39	6.21	18.89	0.06	6.72	0.28	7.00	0.10	0.27	0.37		4,927.39		0.15		4,930.55
Unmitigated	2.39	6.21	18.89	0.06	6.72	0.28	7.00	0.10	0.27	0.37		4,927.39		0.15		4,930.55
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	560.15	608.60	515.95	1,867,643	1,867,643
Total	560.15	608.60	515.95	1,867,643	1,867,643

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
NaturalGas Unmitigated	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	3920.96	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total		**0.04**	**0.36**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**461.29**		**0.01**	**0.01**	**464.10**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	3.92096	0.04	0.36	0.15	0.00		0.00	0.03		0.00	0.03		461.29		0.01	0.01	464.10
Total		**0.04**	**0.36**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**461.29**		**0.01**	**0.01**	**464.10**

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	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Unmitigated	11.10	0.50	35.23	0.07		0.00	4.53		0.00	4.53	599.82	1,542.78		2.39	0.04	2,204.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.18					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.66					0.00	0.00		0.00	0.00						0.00
Hearth	9.05	0.41	28.14	0.07		0.00	4.49		0.00	4.49	599.82	1,530.00		2.37	0.04	2,191.07
Landscaping	0.21	0.08	7.10	0.00		0.00	0.04		0.00	0.04		12.78		0.01		13.04
Total	**11.10**	**0.49**	**35.24**	**0.07**		**0.00**	**4.53**		**0.00**	**4.53**	**599.82**	**1,542.78**		**2.38**	**0.04**	**2,204.11**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.18					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.66					0.00	0.00		0.00	0.00						0.00
Hearth	9.05	0.41	28.14	0.07		0.00	4.49		0.00	4.49	599.82	1,530.00		2.37	0.04	2,191.07
Landscaping	0.21	0.08	7.10	0.00		0.00	0.04		0.00	0.04		12.78		0.01		13.04
Total	**11.10**	**0.49**	**35.24**	**0.07**		**0.00**	**4.53**		**0.00**	**4.53**	**599.82**	**1,542.78**		**2.38**	**0.04**	**2,204.11**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 3A

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Retirement Community	73	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 71,935 sqft senior building with 73 units on 3.2 acres

Construction Phase - Demo: 1/1/2018 - 3/31/2018
Grading: 4/1/2018 - 6/30/2018
Building: 7/1/2018 - 6/30/2019
Coating: 4/1/2019 - 6/30/2019
Paving: 5/1/2019 - 6/30/2019

Demolition - 14,300 sqft demolished.

Construction Off-road Equipment Mitigation -

Grading - 3.2 acres disturbed.

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					
2018	6.62	47.53	37.00	0.07	6.30	2.17	7.89	3.31	2.16	4.90	0.00	7,759.80	0.00	0.59	0.00	7,772.12
2019	15.21	40.40	44.59	0.08	1.36	2.54	3.90	0.02	2.54	2.56	0.00	7,854.87	0.00	0.59	0.00	7,867.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2018	2.32	7.94	38.48	0.07	2.60	0.47	2.74	1.29	0.47	1.44	0.00	7,759.80	0.00	0.59	0.00	7,772.12
2019	11.53	8.37	46.29	0.08	1.36	0.48	1.84	0.02	0.47	0.49	0.00	7,854.87	0.00	0.59	0.00	7,867.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Energy	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Mobile	0.80	2.03	6.84	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,815.28		0.06		1,816.47
Total	**65.22**	**501.46**	**456.26**	**3.07**	**2.26**	**0.10**	**44.17**	**0.03**	**0.09**	**41.93**	**515.14**	**601,941.81**		**13.59**	**11.01**	**606,155.16**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Energy	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Mobile	0.80	2.03	6.84	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,815.28		0.06		1,816.47
Total	**65.22**	**501.46**	**456.26**	**3.07**	**2.26**	**0.10**	**44.17**	**0.03**	**0.09**	**41.93**	**515.14**	**601,941.81**		**13.59**	**11.01**	**606,155.16**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2018

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					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.22**	**2.15**	**2.37**	**0.00**	**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

3.2 Demolition - 2018

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	0.03	0.32	0.16	0.00	1.52	0.01	1.53	0.00	0.01	0.01		83.03		0.00		83.05
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.10**	**0.38**	**0.88**	**0.00**	**1.75**	**0.02**	**1.77**	**0.00**	**0.02**	**0.02**		**248.98**		**0.01**		**249.15**

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					0.08	0.00	0.08	0.00	0.00	0.00						0.00
Off-Road	2.22	7.56	37.60	0.07		0.45	0.45		0.45	0.45	0.00	7,510.82		0.58		7,522.96
Total	**2.22**	**7.56**	**37.60**	**0.07**	**0.08**	**0.45**	**0.53**	**0.00**	**0.45**	**0.45**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

3.2 Demolition - 2018

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	0.03	0.32	0.16	0.00	1.52	0.01	1.53	0.00	0.01	0.01		83.03		0.00		83.05
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.10**	**0.38**	**0.88**	**0.00**	**1.75**	**0.02**	**1.77**	**0.00**	**0.02**	**0.02**		**248.98**		**0.01**		**249.15**

3.3 Grading - 2018

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					6.07	0.00	6.07	3.31	0.00	3.31						0.00
Off-Road	4.56	32.22	27.59	0.05		1.58	1.58		1.58	1.58		5,240.07		0.41		5,248.59
Total	**4.56**	**32.22**	**27.59**	**0.05**	**6.07**	**1.58**	**7.65**	**3.31**	**1.58**	**4.89**		**5,240.07**		**0.41**		**5,248.59**

3.3 Grading - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.07**	**0.06**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**165.95**		**0.01**		**166.10**

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					2.37	0.00	2.37	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.41		5,248.59
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.37**	**0.14**	**2.51**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.41**		**5,248.59**

3.3 Grading - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		165.95		0.01		166.10
Total	**0.07**	**0.06**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**165.95**		**0.01**		**166.10**

3.4 Building Construction - 2018

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	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.87	0.45	0.00	0.07	0.03	0.10	0.00	0.02	0.03		221.53		0.00		221.60
Worker	0.24	0.21	2.54	0.01	0.81	0.02	0.84	0.01	0.02	0.03		586.37		0.02		586.89
Total	**0.31**	**1.08**	**2.99**	**0.01**	**0.88**	**0.05**	**0.94**	**0.01**	**0.04**	**0.06**		**807.90**		**0.02**		**808.49**

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	1.48	3.70	24.75	0.04		0.21	0.21		0.21	0.21	0.00	4,040.62		0.30		4,046.87
Total	**1.48**	**3.70**	**24.75**	**0.04**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.87	0.45	0.00	0.07	0.03	0.10	0.00	0.02	0.03		221.53		0.00		221.60
Worker	0.24	0.21	2.54	0.01	0.81	0.02	0.84	0.01	0.02	0.03		586.37		0.02		586.89
Total	**0.31**	**1.08**	**2.99**	**0.01**	**0.88**	**0.05**	**0.94**	**0.01**	**0.04**	**0.06**		**807.90**		**0.02**		**808.49**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.81	0.43	0.00	0.07	0.02	0.10	0.00	0.02	0.02		221.69		0.00		221.75
Worker	0.22	0.19	2.35	0.01	0.81	0.02	0.84	0.01	0.02	0.03		574.57		0.02		575.06
Total	**0.28**	**1.00**	**2.78**	**0.01**	**0.88**	**0.04**	**0.94**	**0.01**	**0.04**	**0.05**		**796.26**		**0.02**		**796.81**

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	1.42	3.65	24.69	0.04		0.20	0.20		0.20	0.20	0.00	4,040.62		0.27		4,046.36
Total	**1.42**	**3.65**	**24.69**	**0.04**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.81	0.43	0.00	0.07	0.02	0.10	0.00	0.02	0.02		221.69		0.00		221.75
Worker	0.22	0.19	2.35	0.01	0.81	0.02	0.84	0.01	0.02	0.03		574.57		0.02		575.06
Total	**0.28**	**1.00**	**2.78**	**0.01**	**0.88**	**0.04**	**0.94**	**0.01**	**0.04**	**0.05**		**796.26**		**0.02**		**796.81**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.65					0.00	0.00		0.00	0.00						0.00
Off-Road	0.27	1.83	1.84	0.00		0.13	0.13		0.13	0.13		281.19		0.02		281.69
Total	**8.92**	**1.83**	**1.84**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**		**281.19**		**0.02**		**281.69**

3.5 Architectural Coating - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.04	0.49	0.00	0.17	0.01	0.17	0.00	0.00	0.01		119.25		0.00		119.35
Total	**0.05**	**0.04**	**0.49**	**0.00**	**0.17**	**0.01**	**0.17**	**0.00**	**0.00**	**0.01**		**119.25**		**0.00**		**119.35**

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	8.65					0.00	0.00		0.00	0.00						0.00
Off-Road	0.27	1.83	1.84	0.00		0.13	0.13		0.13	0.13	0.00	281.19		0.02		281.69
Total	**8.92**	**1.83**	**1.84**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**281.19**		**0.02**		**281.69**

3.5 Architectural Coating - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.04	0.49	0.00	0.17	0.01	0.17	0.00	0.00	0.01		119.25		0.00		119.35
Total	**0.05**	**0.04**	**0.49**	**0.00**	**0.17**	**0.01**	**0.17**	**0.00**	**0.00**	**0.01**		**119.25**		**0.00**		**119.35**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.83	17.72	16.24	0.03		1.32	1.32		1.32	1.32		2,400.73		0.25		2,406.06
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.83**	**17.72**	**16.24**	**0.03**		**1.32**	**1.32**		**1.32**	**1.32**		**2,400.73**		**0.25**		**2,406.06**

3.6 Paving - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.07	0.89	0.00	0.31	0.01	0.32	0.00	0.01	0.01		216.82		0.01		217.01
Total	**0.08**	**0.07**	**0.89**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**216.82**		**0.01**		**217.01**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.78	1.78	15.60	0.03		0.08	0.08		0.08	0.08	0.00	2,400.73		0.25		2,406.06
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.78**	**1.78**	**15.60**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,400.73**		**0.25**		**2,406.06**

3.6 Paving - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.07	0.89	0.00	0.31	0.01	0.32	0.00	0.01	0.01		216.82		0.01		217.01
Total	**0.08**	**0.07**	**0.89**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**216.82**		**0.01**		**217.01**

4.0 Mobile Detail

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	0.80	2.03	6.84	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,815.28		0.06		1,816.47
Unmitigated	0.80	2.03	6.84	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,815.28		0.06		1,816.47
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	205.13	205.13	205.13	683,201	683,201
Total	205.13	205.13	205.13	683,201	683,201

4.3 Trip Type Information

	Miles			Trip %		
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
Retirement Community	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
NaturalGas Unmitigated	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Retirement Community	5.08981e+006	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total		**54.89**	**499.00**	**419.16**	**2.99**		**0.00**	**37.92**		**0.00**	**37.92**		**598,801.55**		**11.48**	**10.98**	**602,445.75**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Retirement Community	5089.81	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total		**54.89**	**499.00**	**419.16**	**2.99**		**0.00**	**37.92**		**0.00**	**37.92**		**598,801.55**		**11.48**	**10.98**	**602,445.75**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Unmitigated	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.15					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.42					0.00	0.00		0.00	0.00						0.00
Hearth	7.77	0.36	24.16	0.06		0.00	3.86		0.00	3.86	515.14	1,314.00		2.04	0.03	1,881.74
Landscaping	0.18	0.07	6.09	0.00		0.00	0.03		0.00	0.03		10.98		0.01		11.20
Total	**9.52**	**0.43**	**30.25**	**0.06**		**0.00**	**3.89**		**0.00**	**3.89**	**515.14**	**1,324.98**		**2.05**	**0.03**	**1,892.94**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.15					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.42					0.00	0.00		0.00	0.00						0.00
Hearth	7.77	0.36	24.16	0.06		0.00	3.86		0.00	3.86	515.14	1,314.00		2.04	0.03	1,881.74
Landscaping	0.18	0.07	6.09	0.00		0.00	0.03		0.00	0.03		10.98		0.01		11.20
Total	**9.52**	**0.43**	**30.25**	**0.06**		**0.00**	**3.89**		**0.00**	**3.89**	**515.14**	**1,324.98**		**2.05**	**0.03**	**1,892.94**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 3A

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Retirement Community	73	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 71,935 sqft senior building with 73 units on 3.2 acres

Construction Phase - Demo: 1/1/2018 - 3/31/2018
Grading: 4/1/2018 - 6/30/2018
Building: 7/1/2018 - 6/30/2019
Coating: 4/1/2019 - 6/30/2019
Paving: 5/1/2019 - 6/30/2019

Demolition - 14,300 sqft demolished.

Construction Off-road Equipment Mitigation -

Grading - 3.2 acres disturbed.

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					
2018	6.62	47.54	36.92	0.07	6.30	2.17	7.89	3.31	2.16	4.90	0.00	7,740.10	0.00	0.59	0.00	7,752.40
2019	15.22	40.44	44.15	0.08	1.36	2.54	3.91	0.02	2.54	2.56	0.00	7,747.28	0.00	0.59	0.00	7,759.63
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2018	2.32	7.95	38.40	0.07	2.60	0.47	2.74	1.29	0.47	1.44	0.00	7,740.10	0.00	0.59	0.00	7,752.40
2019	11.54	8.41	45.85	0.08	1.36	0.48	1.84	0.02	0.47	0.49	0.00	7,747.28	0.00	0.59	0.00	7,759.63
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Energy	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Mobile	0.81	2.09	6.37	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,660.79		0.05		1,661.85
Total	**65.23**	**501.52**	**455.79**	**3.07**	**2.26**	**0.10**	**44.17**	**0.03**	**0.09**	**41.93**	**515.14**	**601,787.32**		**13.58**	**11.01**	**606,000.54**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Energy	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Mobile	0.81	2.09	6.37	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,660.79		0.05		1,661.85
Total	**65.23**	**501.52**	**455.79**	**3.07**	**2.26**	**0.10**	**44.17**	**0.03**	**0.09**	**41.93**	**515.14**	**601,787.32**		**13.58**	**11.01**	**606,000.54**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2018

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					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.22**	**2.15**	**2.37**	**0.00**	**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

3.2 Demolition - 2018

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	0.03	0.32	0.18	0.00	1.52	0.01	1.53	0.00	0.01	0.01		82.52		0.00		82.55
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.10**	**0.38**	**0.80**	**0.00**	**1.75**	**0.02**	**1.77**	**0.00**	**0.02**	**0.02**		**229.27**		**0.01**		**229.44**

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					0.08	0.00	0.08	0.00	0.00	0.00						0.00
Off-Road	2.22	7.56	37.60	0.07		0.45	0.45		0.45	0.45	0.00	7,510.82		0.58		7,522.96
Total	**2.22**	**7.56**	**37.60**	**0.07**	**0.08**	**0.45**	**0.53**	**0.00**	**0.45**	**0.45**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

3.2 Demolition - 2018

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	0.03	0.32	0.18	0.00	1.52	0.01	1.53	0.00	0.01	0.01		82.52		0.00		82.55
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.10**	**0.38**	**0.80**	**0.00**	**1.75**	**0.02**	**1.77**	**0.00**	**0.02**	**0.02**		**229.27**		**0.01**		**229.44**

3.3 Grading - 2018

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					6.07	0.00	6.07	3.31	0.00	3.31						0.00
Off-Road	4.56	32.22	27.59	0.05		1.58	1.58		1.58	1.58		5,240.07		0.41		5,248.59
Total	**4.56**	**32.22**	**27.59**	**0.05**	**6.07**	**1.58**	**7.65**	**3.31**	**1.58**	**4.89**		**5,240.07**		**0.41**		**5,248.59**

3.3 Grading - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**146.75**		**0.01**		**146.89**

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					2.37	0.00	2.37	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.41		5,248.59
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.37**	**0.14**	**2.51**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.41**		**5,248.59**

3.3 Grading - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		146.75		0.01		146.89
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**146.75**		**0.01**		**146.89**

3.4 Building Construction - 2018

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	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.88	0.54	0.00	0.07	0.03	0.10	0.00	0.02	0.03		219.52		0.00		219.60
Worker	0.24	0.23	2.18	0.01	0.81	0.02	0.84	0.01	0.02	0.03		518.53		0.02		519.01
Total	**0.31**	**1.11**	**2.72**	**0.01**	**0.88**	**0.05**	**0.94**	**0.01**	**0.04**	**0.06**		**738.05**		**0.02**		**738.61**

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	1.48	3.70	24.75	0.04		0.21	0.21		0.21	0.21	0.00	4,040.62		0.30		4,046.87
Total	**1.48**	**3.70**	**24.75**	**0.04**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

3.4 Building Construction - 2018

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.88	0.54	0.00	0.07	0.03	0.10	0.00	0.02	0.03		219.52		0.00		219.60
Worker	0.24	0.23	2.18	0.01	0.81	0.02	0.84	0.01	0.02	0.03		518.53		0.02		519.01
Total	**0.31**	**1.11**	**2.72**	**0.01**	**0.88**	**0.05**	**0.94**	**0.01**	**0.04**	**0.06**		**738.05**		**0.02**		**738.61**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.82	0.51	0.00	0.07	0.02	0.10	0.00	0.02	0.02		219.65		0.00		219.72
Worker	0.22	0.21	2.02	0.01	0.81	0.02	0.84	0.01	0.02	0.03		507.98		0.02		508.43
Total	**0.29**	**1.03**	**2.53**	**0.01**	**0.88**	**0.04**	**0.94**	**0.01**	**0.04**	**0.05**		**727.63**		**0.02**		**728.15**

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	1.42	3.65	24.69	0.04		0.20	0.20		0.20	0.20	0.00	4,040.62		0.27		4,046.36
Total	**1.42**	**3.65**	**24.69**	**0.04**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.82	0.51	0.00	0.07	0.02	0.10	0.00	0.02	0.02		219.65		0.00		219.72
Worker	0.22	0.21	2.02	0.01	0.81	0.02	0.84	0.01	0.02	0.03		507.98		0.02		508.43
Total	**0.29**	**1.03**	**2.53**	**0.01**	**0.88**	**0.04**	**0.94**	**0.01**	**0.04**	**0.05**		**727.63**		**0.02**		**728.15**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.65					0.00	0.00		0.00	0.00						0.00
Off-Road	0.27	1.83	1.84	0.00		0.13	0.13		0.13	0.13		281.19		0.02		281.69
Total	**8.92**	**1.83**	**1.84**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**		**281.19**		**0.02**		**281.69**

3.5 Architectural Coating - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.04	0.42	0.00	0.17	0.01	0.17	0.00	0.00	0.01		105.43		0.00		105.52
Total	**0.05**	**0.04**	**0.42**	**0.00**	**0.17**	**0.01**	**0.17**	**0.00**	**0.00**	**0.01**		**105.43**		**0.00**		**105.52**

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	8.65					0.00	0.00		0.00	0.00						0.00
Off-Road	0.27	1.83	1.84	0.00		0.13	0.13		0.13	0.13	0.00	281.19		0.02		281.69
Total	**8.92**	**1.83**	**1.84**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**281.19**		**0.02**		**281.69**

3.5 Architectural Coating - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.05	0.04	0.42	0.00	0.17	0.01	0.17	0.00	0.00	0.01		105.43		0.00		105.52
Total	**0.05**	**0.04**	**0.42**	**0.00**	**0.17**	**0.01**	**0.17**	**0.00**	**0.00**	**0.01**		**105.43**		**0.00**		**105.52**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.83	17.72	16.24	0.03		1.32	1.32		1.32	1.32		2,400.73		0.25		2,406.06
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.83**	**17.72**	**16.24**	**0.03**		**1.32**	**1.32**		**1.32**	**1.32**		**2,400.73**		**0.25**		**2,406.06**

3.6 Paving - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.76	0.00	0.31	0.01	0.32	0.00	0.01	0.01		191.69		0.01		191.86
Total	**0.08**	**0.08**	**0.76**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**191.69**		**0.01**		**191.86**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.78	1.78	15.60	0.03		0.08	0.08		0.08	0.08	0.00	2,400.73		0.25		2,406.06
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.78**	**1.78**	**15.60**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,400.73**		**0.25**		**2,406.06**

3.6 Paving - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.08	0.08	0.76	0.00	0.31	0.01	0.32	0.00	0.01	0.01		191.69		0.01		191.86
Total	**0.08**	**0.08**	**0.76**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**191.69**		**0.01**		**191.86**

4.0 Mobile Detail

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	0.81	2.09	6.37	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,660.79		0.05		1,661.85
Unmitigated	0.81	2.09	6.37	0.02	2.26	0.10	2.36	0.03	0.09	0.12		1,660.79		0.05		1,661.85
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	205.13	205.13	205.13	683,201	683,201
Total	205.13	205.13	205.13	683,201	683,201

4.3 Trip Type Information

	Miles			Trip %		
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
Retirement Community	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
NaturalGas Unmitigated	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Retirement Community	5.08981e+006	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total		**54.89**	**499.00**	**419.16**	**2.99**		**0.00**	**37.92**		**0.00**	**37.92**		**598,801.55**		**11.48**	**10.98**	**602,445.75**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Retirement Community	5089.81	54.89	499.00	419.16	2.99		0.00	37.92		0.00	37.92		598,801.55		11.48	10.98	602,445.75
Total		**54.89**	**499.00**	**419.16**	**2.99**		**0.00**	**37.92**		**0.00**	**37.92**		**598,801.55**		**11.48**	**10.98**	**602,445.75**

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	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Unmitigated	9.53	0.43	30.26	0.06		0.00	3.89		0.00	3.89	515.14	1,324.98		2.05	0.03	1,892.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.15					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.42					0.00	0.00		0.00	0.00						0.00
Hearth	7.77	0.36	24.16	0.06		0.00	3.86		0.00	3.86	515.14	1,314.00		2.04	0.03	1,881.74
Landscaping	0.18	0.07	6.09	0.00		0.00	0.03		0.00	0.03		10.98		0.01		11.20
Total	**9.52**	**0.43**	**30.25**	**0.06**		**0.00**	**3.89**		**0.00**	**3.89**	**515.14**	**1,324.98**		**2.05**	**0.03**	**1,892.94**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.15					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.42					0.00	0.00		0.00	0.00						0.00
Hearth	7.77	0.36	24.16	0.06		0.00	3.86		0.00	3.86	515.14	1,314.00		2.04	0.03	1,881.74
Landscaping	0.18	0.07	6.09	0.00		0.00	0.03		0.00	0.03		10.98		0.01		11.20
Total	**9.52**	**0.43**	**30.25**	**0.06**		**0.00**	**3.89**		**0.00**	**3.89**	**515.14**	**1,324.98**		**2.05**	**0.03**	**1,892.94**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 3B

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	26	1000sqft
Apartments Low Rise	102	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 102 residences in 100,155 sqft, lot 6.3 acres
26,000 sqft shop/youth training center, 1 acre

Construction Phase - Demo: 4/1/2019 - 6/30/2019
Grading: 7/1/2019 - 9/30/2019
Building: 10/1/2019 - 9/30/2020
Coating: 7/1/2020 - 9/30/2020
Paving: 8/1/2020 - 9/30/2020

Demolition - 46,400 sqft demolished.

Construction Off-road Equipment Mitigation -

Grading - 7.3 acres disturbed.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	6.26	44.14	36.35	0.08	6.37	1.97	7.82	3.31	1.97	4.72	0.00	7,943.25	0.00	0.56	0.00	7,954.92
2020	28.10	43.02	49.49	0.10	1.92	2.73	4.65	0.03	2.73	2.75	0.00	8,889.19	0.00	0.64	0.00	8,902.61
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.31	8.23	38.72	0.08	5.42	0.45	5.88	1.29	0.45	1.44	0.00	7,943.25	0.00	0.56	0.00	7,954.92
2020	24.05	8.63	51.04	0.10	1.92	0.47	2.39	0.03	0.46	0.49	0.00	8,889.19	0.00	0.64	0.00	8,902.61
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Energy	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Mobile	3.55	9.03	30.47	0.10	10.09	0.42	10.51	0.15	0.40	0.55		8,086.83		0.25		8,092.16
Total	**17.62**	**10.30**	**73.13**	**0.18**	**10.09**	**0.42**	**16.00**	**0.15**	**0.40**	**6.04**	**719.79**	**10,770.70**		**3.13**	**0.06**	**11,574.68**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Energy	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Mobile	3.55	9.03	30.47	0.10	10.09	0.42	10.51	0.15	0.40	0.55		8,086.83		0.25		8,092.16
Total	**17.62**	**10.30**	**73.13**	**0.18**	**10.09**	**0.42**	**16.00**	**0.15**	**0.40**	**6.04**	**719.79**	**10,770.70**		**3.13**	**0.06**	**11,574.68**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.70	0.00	0.70	0.00	0.00	0.00						0.00
Off-Road	6.12	43.15	35.20	0.07		1.93	1.93		1.93	1.93		7,510.81		0.54		7,522.26
Total	**6.12**	**43.15**	**35.20**	**0.07**	**0.70**	**1.93**	**2.63**	**0.00**	**1.93**	**1.93**		**7,510.81**		**0.54**		**7,522.26**

3.2 Demolition - 2019

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	0.08	0.94	0.48	0.00	4.92	0.04	4.95	0.00	0.03	0.04		269.82		0.00		269.91
Vendor	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
Worker	0.06	0.05	0.67	0.00	0.23	0.01	0.24	0.00	0.01	0.01		162.62		0.01		162.75
Total	**0.14**	**0.99**	**1.15**	**0.00**	**5.15**	**0.05**	**5.19**	**0.00**	**0.04**	**0.05**		**432.44**		**0.01**		**432.66**

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					0.27	0.00	0.27	0.00	0.00	0.00						0.00
Off-Road	2.17	7.24	37.58	0.07		0.41	0.41		0.41	0.41	0.00	7,510.81		0.54		7,522.26
Total	**2.17**	**7.24**	**37.58**	**0.07**	**0.27**	**0.41**	**0.68**	**0.00**	**0.41**	**0.41**	**0.00**	**7,510.81**		**0.54**		**7,522.26**

3.2 Demolition - 2019

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	0.08	0.94	0.48	0.00	4.92	0.04	4.95	0.00	0.03	0.04		269.82		0.00		269.91
Vendor	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
Worker	0.06	0.05	0.67	0.00	0.23	0.01	0.24	0.00	0.01	0.01		162.62		0.01		162.75
Total	**0.14**	**0.99**	**1.15**	**0.00**	**5.15**	**0.05**	**5.19**	**0.00**	**0.04**	**0.05**		**432.44**		**0.01**		**432.66**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.14	0.00	6.14	3.31	0.00	3.31						0.00
Off-Road	4.26	29.46	27.10	0.05		1.40	1.40		1.40	1.40		5,240.07		0.38		5,248.04
Total	**4.26**	**29.46**	**27.10**	**0.05**	**6.14**	**1.40**	**7.54**	**3.31**	**1.40**	**4.71**		**5,240.07**		**0.38**		**5,248.04**

3.3 Grading - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.67	0.00	0.23	0.01	0.24	0.00	0.01	0.01		162.62		0.01		162.75
Total	**0.06**	**0.05**	**0.67**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**162.62**		**0.01**		**162.75**

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					2.39	0.00	2.39	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.38		5,248.04
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.39**	**0.14**	**2.53**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.38**		**5,248.04**

3.3 Grading - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.67	0.00	0.23	0.01	0.24	0.00	0.01	0.01		162.62		0.01		162.75
Total	**0.06**	**0.05**	**0.67**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**162.62**		**0.01**		**162.75**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.12	1.52	0.80	0.00	0.14	0.05	0.18	0.00	0.04	0.04		415.66		0.01		415.78
Worker	0.35	0.30	3.73	0.01	1.29	0.04	1.33	0.02	0.04	0.05		910.64		0.04		911.42
Total	**0.47**	**1.82**	**4.53**	**0.01**	**1.43**	**0.09**	**1.51**	**0.02**	**0.08**	**0.09**		**1,326.30**		**0.05**		**1,327.20**

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	1.42	3.65	24.69	0.04		0.20	0.20		0.20	0.20	0.00	4,040.62		0.27		4,046.36
Total	**1.42**	**3.65**	**24.69**	**0.04**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.12	1.52	0.80	0.00	0.14	0.05	0.18	0.00	0.04	0.04		415.66		0.01		415.78
Worker	0.35	0.30	3.73	0.01	1.29	0.04	1.33	0.02	0.04	0.05		910.64		0.04		911.42
Total	**0.47**	**1.82**	**4.53**	**0.01**	**1.43**	**0.09**	**1.51**	**0.02**	**0.08**	**0.09**		**1,326.30**		**0.05**		**1,327.20**

3.4 Building Construction - 2020

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	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

3.4 Building Construction - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.11	1.43	0.76	0.00	0.14	0.04	0.18	0.00	0.04	0.04		415.94		0.01		416.06
Worker	0.34	0.28	3.48	0.01	1.29	0.04	1.33	0.02	0.04	0.05		893.44		0.03		894.17
Total	**0.45**	**1.71**	**4.24**	**0.01**	**1.43**	**0.08**	**1.51**	**0.02**	**0.08**	**0.09**		**1,309.38**		**0.04**		**1,310.23**

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	1.38	3.59	24.65	0.04		0.19	0.19		0.19	0.19	0.00	4,040.62		0.25		4,045.85
Total	**1.38**	**3.59**	**24.65**	**0.04**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

3.4 Building Construction - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.11	1.43	0.76	0.00	0.14	0.04	0.18	0.00	0.04	0.04		415.94		0.01		416.06
Worker	0.34	0.28	3.48	0.01	1.29	0.04	1.33	0.02	0.04	0.05		893.44		0.03		894.17
Total	**0.45**	**1.71**	**4.24**	**0.01**	**1.43**	**0.08**	**1.51**	**0.02**	**0.08**	**0.09**		**1,309.38**		**0.04**		**1,310.23**

3.5 Architectural Coating - 2020

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	20.98					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11		281.19		0.02		281.65
Total	**21.22**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**		**281.19**		**0.02**		**281.65**

3.5 Architectural Coating - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.70	0.00	0.26	0.01	0.27	0.00	0.01	0.01		180.82		0.01		180.96
Total	**0.07**	**0.06**	**0.70**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**180.82**		**0.01**		**180.96**

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	20.98					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11	0.00	281.19		0.02		281.65
Total	**21.22**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**281.19**		**0.02**		**281.65**

3.5 Architectural Coating - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.70	0.00	0.26	0.01	0.27	0.00	0.01	0.01		180.82		0.01		180.96
Total	**0.07**	**0.06**	**0.70**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**180.82**		**0.01**		**180.96**

3.6 Paving - 2020

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	3.50	21.64	19.87	0.03		1.65	1.65		1.65	1.65		2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.50**	**21.64**	**19.87**	**0.03**		**1.65**	**1.65**		**1.65**	**1.65**		**2,917.65**		**0.31**		**2,924.25**

3.6 Paving - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		159.54		0.01		159.67
Total	**0.06**	**0.05**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**159.54**		**0.01**		**159.67**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.31**		**2,924.25**

3.6 Paving - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		159.54		0.01		159.67
Total	**0.06**	**0.05**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**159.54**		**0.01**		**159.67**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.55	9.03	30.47	0.10	10.09	0.42	10.51	0.15	0.40	0.55		8,086.83		0.25		8,092.16
Unmitigated	3.55	9.03	30.47	0.10	10.09	0.42	10.51	0.15	0.40	0.55		8,086.83		0.25		8,092.16
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	672.18	730.32	619.14	2,241,172	2,241,172
General Light Industry	181.22	34.32	17.68	461,805	461,805
Total	853.40	764.64	636.82	2,702,977	2,702,977

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00

5.0 Energy Detail

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	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
NaturalGas Unmitigated	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	4705.16	0.05	0.43	0.18	0.00		0.00	0.04		0.00	0.04		553.55		0.01	0.01	556.92
General Light Industry	2371.34	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
Total		**0.08**	**0.66**	**0.38**	**0.00**		**0.00**	**0.06**		**0.00**	**0.06**		**832.53**		**0.02**	**0.02**	**837.60**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	4.70516	0.05	0.43	0.18	0.00		0.00	0.04		0.00	0.04		553.55		0.01	0.01	556.92
General Light Industry	2.37134	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
Total		**0.08**	**0.66**	**0.38**	**0.00**		**0.00**	**0.06**		**0.00**	**0.06**		**832.53**		**0.02**	**0.02**	**837.60**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Unmitigated	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.38					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.50					0.00	0.00		0.00	0.00						0.00
Hearth	10.86	0.50	33.76	0.08		0.00	5.39		0.00	5.39	719.79	1,836.00		2.85	0.04	2,629.28
Landscaping	0.26	0.10	8.52	0.00		0.00	0.05		0.00	0.05		15.34		0.01		15.65
Total	**14.00**	**0.60**	**42.28**	**0.08**		**0.00**	**5.44**		**0.00**	**5.44**	**719.79**	**1,851.34**		**2.86**	**0.04**	**2,644.93**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.38					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.50					0.00	0.00		0.00	0.00						0.00
Hearth	10.86	0.50	33.76	0.08		0.00	5.39		0.00	5.39	719.79	1,836.00		2.85	0.04	2,629.28
Landscaping	0.26	0.10	8.52	0.00		0.00	0.05		0.00	0.05		15.34		0.01		15.65
Total	**14.00**	**0.60**	**42.28**	**0.08**		**0.00**	**5.44**		**0.00**	**5.44**	**719.79**	**1,851.34**		**2.86**	**0.04**	**2,644.93**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 3B

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Light Industry	26	1000sqft
Apartments Low Rise	102	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 102 residences in 100,155 sqft, lot 6.3 acres
26,000 sqft shop/youth training center, 1 acre

Construction Phase - Demo: 4/1/2019 - 6/30/2019
Grading: 7/1/2019 - 9/30/2019
Building: 10/1/2019 - 9/30/2020
Coating: 7/1/2020 - 9/30/2020
Paving: 8/1/2020 - 9/30/2020

Demolition - 46,400 sqft demolished.

Construction Off-road Equipment Mitigation -

Grading - 7.3 acres disturbed.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	6.27	44.17	36.32	0.08	6.37	1.97	7.82	3.31	1.97	4.72	0.00	7,922.75	0.00	0.56	0.00	7,934.41
2020	28.11	43.07	48.97	0.09	1.92	2.73	4.65	0.03	2.73	2.75	0.00	8,742.06	0.00	0.63	0.00	8,755.39
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	2.31	8.26	38.70	0.08	5.42	0.45	5.88	1.29	0.45	1.44	0.00	7,922.75	0.00	0.56	0.00	7,934.41
2020	24.06	8.68	50.51	0.09	1.92	0.47	2.39	0.03	0.46	0.49	0.00	8,742.06	0.00	0.63	0.00	8,755.39
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Energy	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Mobile	3.59	9.32	28.36	0.09	10.09	0.43	10.51	0.15	0.41	0.55		7,398.58		0.23		7,403.33
Total	**17.66**	**10.59**	**71.02**	**0.17**	**10.09**	**0.43**	**16.00**	**0.15**	**0.41**	**6.04**	**719.79**	**10,082.45**		**3.11**	**0.06**	**10,885.85**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Energy	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Mobile	3.59	9.32	28.36	0.09	10.09	0.43	10.51	0.15	0.41	0.55		7,398.58		0.23		7,403.33
Total	**17.66**	**10.59**	**71.02**	**0.17**	**10.09**	**0.43**	**16.00**	**0.15**	**0.41**	**6.04**	**719.79**	**10,082.45**		**3.11**	**0.06**	**10,885.85**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.70	0.00	0.70	0.00	0.00	0.00						0.00
Off-Road	6.12	43.15	35.20	0.07		1.93	1.93		1.93	1.93		7,510.81		0.54		7,522.26
Total	**6.12**	**43.15**	**35.20**	**0.07**	**0.70**	**1.93**	**2.63**	**0.00**	**1.93**	**1.93**		**7,510.81**		**0.54**		**7,522.26**

3.2 Demolition - 2019

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	0.09	0.96	0.55	0.00	4.92	0.04	4.95	0.00	0.03	0.04		268.17		0.00		268.26
Vendor	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
Worker	0.06	0.06	0.57	0.00	0.23	0.01	0.24	0.00	0.01	0.01		143.77		0.01		143.89
Total	**0.15**	**1.02**	**1.12**	**0.00**	**5.15**	**0.05**	**5.19**	**0.00**	**0.04**	**0.05**		**411.94**		**0.01**		**412.15**

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					0.27	0.00	0.27	0.00	0.00	0.00						0.00
Off-Road	2.17	7.24	37.58	0.07		0.41	0.41		0.41	0.41	0.00	7,510.81		0.54		7,522.26
Total	**2.17**	**7.24**	**37.58**	**0.07**	**0.27**	**0.41**	**0.68**	**0.00**	**0.41**	**0.41**	**0.00**	**7,510.81**		**0.54**		**7,522.26**

3.2 Demolition - 2019

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	0.09	0.96	0.55	0.00	4.92	0.04	4.95	0.00	0.03	0.04		268.17		0.00		268.26
Vendor	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
Worker	0.06	0.06	0.57	0.00	0.23	0.01	0.24	0.00	0.01	0.01		143.77		0.01		143.89
Total	**0.15**	**1.02**	**1.12**	**0.00**	**5.15**	**0.05**	**5.19**	**0.00**	**0.04**	**0.05**		**411.94**		**0.01**		**412.15**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.14	0.00	6.14	3.31	0.00	3.31						0.00
Off-Road	4.26	29.46	27.10	0.05		1.40	1.40		1.40	1.40		5,240.07		0.38		5,248.04
Total	**4.26**	**29.46**	**27.10**	**0.05**	**6.14**	**1.40**	**7.54**	**3.31**	**1.40**	**4.71**		**5,240.07**		**0.38**		**5,248.04**

3.3 Grading - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.06	0.57	0.00	0.23	0.01	0.24	0.00	0.01	0.01		143.77		0.01		143.89
Total	**0.06**	**0.06**	**0.57**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**143.77**		**0.01**		**143.89**

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					2.39	0.00	2.39	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.38		5,248.04
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.39**	**0.14**	**2.53**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.38**		**5,248.04**

3.3 Grading - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.06	0.57	0.00	0.23	0.01	0.24	0.00	0.01	0.01		143.77		0.01		143.89
Total	**0.06**	**0.06**	**0.57**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**143.77**		**0.01**		**143.89**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.53	0.96	0.00	0.14	0.05	0.19	0.00	0.04	0.05		411.84		0.01		411.97
Worker	0.35	0.33	3.20	0.01	1.29	0.04	1.33	0.02	0.04	0.05		805.10		0.03		805.81
Total	**0.48**	**1.86**	**4.16**	**0.01**	**1.43**	**0.09**	**1.52**	**0.02**	**0.08**	**0.10**		**1,216.94**		**0.04**		**1,217.78**

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	1.42	3.65	24.69	0.04		0.20	0.20		0.20	0.20	0.00	4,040.62		0.27		4,046.36
Total	**1.42**	**3.65**	**24.69**	**0.04**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

3.4 Building Construction - 2019

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.13	1.53	0.96	0.00	0.14	0.05	0.19	0.00	0.04	0.05		411.84		0.01		411.97
Worker	0.35	0.33	3.20	0.01	1.29	0.04	1.33	0.02	0.04	0.05		805.10		0.03		805.81
Total	**0.48**	**1.86**	**4.16**	**0.01**	**1.43**	**0.09**	**1.52**	**0.02**	**0.08**	**0.10**		**1,216.94**		**0.04**		**1,217.78**

3.4 Building Construction - 2020

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	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

3.4 Building Construction - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.12	1.44	0.92	0.00	0.14	0.04	0.18	0.00	0.04	0.04		412.07		0.01		412.19
Worker	0.34	0.30	2.98	0.01	1.29	0.04	1.33	0.02	0.04	0.05		789.70		0.03		790.36
Total	**0.46**	**1.74**	**3.90**	**0.01**	**1.43**	**0.08**	**1.51**	**0.02**	**0.08**	**0.09**		**1,201.77**		**0.04**		**1,202.55**

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	1.38	3.59	24.65	0.04		0.19	0.19		0.19	0.19	0.00	4,040.62		0.25		4,045.85
Total	**1.38**	**3.59**	**24.65**	**0.04**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

3.4 Building Construction - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.12	1.44	0.92	0.00	0.14	0.04	0.18	0.00	0.04	0.04		412.07		0.01		412.19
Worker	0.34	0.30	2.98	0.01	1.29	0.04	1.33	0.02	0.04	0.05		789.70		0.03		790.36
Total	**0.46**	**1.74**	**3.90**	**0.01**	**1.43**	**0.08**	**1.51**	**0.02**	**0.08**	**0.09**		**1,201.77**		**0.04**		**1,202.55**

3.5 Architectural Coating - 2020

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	20.98					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11		281.19		0.02		281.65
Total	**21.22**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**		**281.19**		**0.02**		**281.65**

3.5 Architectural Coating - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.60	0.00	0.26	0.01	0.27	0.00	0.01	0.01		159.82		0.01		159.95
Total	**0.07**	**0.06**	**0.60**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**159.82**		**0.01**		**159.95**

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	20.98					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11	0.00	281.19		0.02		281.65
Total	**21.22**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**281.19**		**0.02**		**281.65**

3.5 Architectural Coating - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.07	0.06	0.60	0.00	0.26	0.01	0.27	0.00	0.01	0.01		159.82		0.01		159.95
Total	**0.07**	**0.06**	**0.60**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**159.82**		**0.01**		**159.95**

3.6 Paving - 2020

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	3.50	21.64	19.87	0.03		1.65	1.65		1.65	1.65		2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.50**	**21.64**	**19.87**	**0.03**		**1.65**	**1.65**		**1.65**	**1.65**		**2,917.65**		**0.31**		**2,924.25**

3.6 Paving - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.53	0.00	0.23	0.01	0.24	0.00	0.01	0.01		141.02		0.01		141.14
Total	**0.06**	**0.05**	**0.53**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**141.02**		**0.01**		**141.14**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.65**		**0.31**		**2,924.25**

3.6 Paving - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.53	0.00	0.23	0.01	0.24	0.00	0.01	0.01		141.02		0.01		141.14
Total	**0.06**	**0.05**	**0.53**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**141.02**		**0.01**		**141.14**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.59	9.32	28.36	0.09	10.09	0.43	10.51	0.15	0.41	0.55		7,398.58		0.23		7,403.33
Unmitigated	3.59	9.32	28.36	0.09	10.09	0.43	10.51	0.15	0.41	0.55		7,398.58		0.23		7,403.33
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	672.18	730.32	619.14	2,241,172	2,241,172
General Light Industry	181.22	34.32	17.68	461,805	461,805
Total	853.40	764.64	636.82	2,702,977	2,702,977

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00

5.0 Energy Detail

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	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
NaturalGas Unmitigated	0.08	0.67	0.38	0.00		0.00	0.05		0.00	0.05		832.53		0.02	0.02	837.60
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	4705.16	0.05	0.43	0.18	0.00		0.00	0.04		0.00	0.04		553.55		0.01	0.01	556.92
General Light Industry	2371.34	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
Total		**0.08**	**0.66**	**0.38**	**0.00**		**0.00**	**0.06**		**0.00**	**0.06**		**832.53**		**0.02**	**0.02**	**837.60**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	4.70516	0.05	0.43	0.18	0.00		0.00	0.04		0.00	0.04		553.55		0.01	0.01	556.92
General Light Industry	2.37134	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
Total		**0.08**	**0.66**	**0.38**	**0.00**		**0.00**	**0.06**		**0.00**	**0.06**		**832.53**		**0.02**	**0.02**	**837.60**

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	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Unmitigated	13.99	0.60	42.28	0.08		0.00	5.44		0.00	5.44	719.79	1,851.34		2.86	0.04	2,644.92
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.38					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.50					0.00	0.00		0.00	0.00						0.00
Hearth	10.86	0.50	33.76	0.08		0.00	5.39		0.00	5.39	719.79	1,836.00		2.85	0.04	2,629.28
Landscaping	0.26	0.10	8.52	0.00		0.00	0.05		0.00	0.05		15.34		0.01		15.65
Total	**14.00**	**0.60**	**42.28**	**0.08**		**0.00**	**5.44**		**0.00**	**5.44**	**719.79**	**1,851.34**		**2.86**	**0.04**	**2,644.93**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.38					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.50					0.00	0.00		0.00	0.00						0.00
Hearth	10.86	0.50	33.76	0.08		0.00	5.39		0.00	5.39	719.79	1,836.00		2.85	0.04	2,629.28
Landscaping	0.26	0.10	8.52	0.00		0.00	0.05		0.00	0.05		15.34		0.01		15.65
Total	**14.00**	**0.60**	**42.28**	**0.08**		**0.00**	**5.44**		**0.00**	**5.44**	**719.79**	**1,851.34**		**2.86**	**0.04**	**2,644.93**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 4A

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	53	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 53 units in 52,460 sqft, 2.6 acre lot

Construction Phase - Demo: 7/1/2020 - 9/30/2020
Grading: 10/1/2020 - 12/31/2020
Building: 1/1/2021 - 6/30/2021
Coating: 5/1/2021 - 6/30/2021
Paving: 6/1/2021 - 6/30/2021

Demolition - 27,440 sqft demolished

Construction Off-road Equipment Mitigation -

Grading - 2.6 acres disturbed

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					
2020	3.22	23.23	20.04	0.04	6.22	1.07	7.18	3.31	1.06	4.27	0.00	4,242.33	0.00	0.29	0.00	4,248.36
2021	14.84	32.01	37.87	0.07	0.99	1.84	2.84	0.01	1.84	1.85	0.00	6,715.78	0.00	0.47	0.00	6,725.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2020	1.41	5.62	20.74	0.04	3.27	0.31	3.58	1.29	0.31	1.40	0.00	4,242.33	0.00	0.29	0.00	4,248.36
2021	12.39	9.76	39.85	0.07	0.99	0.51	1.50	0.01	0.50	0.52	0.00	6,715.78	0.00	0.47	0.00	6,725.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Energy	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Mobile	1.48	3.75	12.66	0.04	4.19	0.18	4.36	0.06	0.17	0.23		3,358.17		0.11		3,360.38
Total	**8.44**	**4.29**	**34.73**	**0.08**	**4.19**	**0.18**	**7.21**	**0.06**	**0.17**	**3.08**	**374.01**	**4,607.77**		**1.61**	**0.03**	**5,024.08**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Energy	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Mobile	1.48	3.75	12.66	0.04	4.19	0.18	4.36	0.06	0.17	0.23		3,358.17		0.11		3,360.38
Total	**8.44**	**4.29**	**34.73**	**0.08**	**4.19**	**0.18**	**7.21**	**0.06**	**0.17**	**3.08**	**374.01**	**4,607.77**		**1.61**	**0.03**	**5,024.08**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2020

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					0.41	0.00	0.41	0.00	0.00	0.00						0.00
Off-Road	3.12	22.67	19.24	0.04		1.04	1.04		1.04	1.04		3,946.47		0.28		3,952.35
Total	**3.12**	**22.67**	**19.24**	**0.04**	**0.41**	**1.04**	**1.45**	**0.00**	**1.04**	**1.04**		**3,946.47**		**0.28**		**3,952.35**

3.2 Demolition - 2020

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	0.04	0.51	0.26	0.00	2.91	0.02	2.93	0.00	0.02	0.02		157.59		0.00		157.63
Vendor	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
Worker	0.05	0.04	0.54	0.00	0.20	0.01	0.21	0.00	0.01	0.01		138.27		0.01		138.38
Total	**0.09**	**0.55**	**0.80**	**0.00**	**3.11**	**0.03**	**3.14**	**0.00**	**0.03**	**0.03**		**295.86**		**0.01**		**296.01**

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					0.16	0.00	0.16	0.00	0.00	0.00						0.00
Off-Road	1.31	5.07	19.94	0.04		0.29	0.29		0.29	0.29	0.00	3,946.47		0.28		3,952.35
Total	**1.31**	**5.07**	**19.94**	**0.04**	**0.16**	**0.29**	**0.45**	**0.00**	**0.29**	**0.29**	**0.00**	**3,946.47**		**0.28**		**3,952.35**

3.2 Demolition - 2020

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	0.04	0.51	0.26	0.00	2.91	0.02	2.93	0.00	0.02	0.02		157.59		0.00		157.63
Vendor	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
Worker	0.05	0.04	0.54	0.00	0.20	0.01	0.21	0.00	0.01	0.01		138.27		0.01		138.38
Total	**0.09**	**0.55**	**0.80**	**0.00**	**3.11**	**0.03**	**3.14**	**0.00**	**0.03**	**0.03**		**295.86**		**0.01**		**296.01**

3.3 Grading - 2020

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					6.06	0.00	6.06	3.31	0.00	3.31						0.00
Off-Road	3.07	21.40	17.97	0.04		0.96	0.96		0.96	0.96		3,827.58		0.27		3,833.34
Total	**3.07**	**21.40**	**17.97**	**0.04**	**6.06**	**0.96**	**7.02**	**3.31**	**0.96**	**4.27**		**3,827.58**		**0.27**		**3,833.34**

3.3 Grading - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.03	0.41	0.00	0.15	0.00	0.16	0.00	0.00	0.01		106.36		0.00		106.45
Total	**0.04**	**0.03**	**0.41**	**0.00**	**0.15**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**106.36**		**0.00**		**106.45**

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					2.36	0.00	2.36	1.29	0.00	1.29						0.00
Off-Road	0.98	2.02	19.34	0.04		0.10	0.10		0.10	0.10	0.00	3,827.58		0.27		3,833.34
Total	**0.98**	**2.02**	**19.34**	**0.04**	**2.36**	**0.10**	**2.46**	**1.29**	**0.10**	**1.39**	**0.00**	**3,827.58**		**0.27**		**3,833.34**

3.3 Grading - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.03	0.41	0.00	0.15	0.00	0.16	0.00	0.00	0.01		106.36		0.00		106.45
Total	**0.04**	**0.03**	**0.41**	**0.00**	**0.15**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**106.36**		**0.00**		**106.45**

3.4 Building Construction - 2021

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	2.42	14.64	17.40	0.04		0.67	0.67		0.67	0.67		3,233.11		0.22		3,237.63
Total	**2.42**	**14.64**	**17.40**	**0.04**		**0.67**	**0.67**		**0.67**	**0.67**		**3,233.11**		**0.22**		**3,237.63**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.04	0.54	0.29	0.00	0.06	0.02	0.07	0.00	0.01	0.02		166.93		0.00		166.97
Worker	0.15	0.12	1.49	0.00	0.58	0.02	0.60	0.01	0.02	0.02		399.40		0.02		399.71
Total	**0.19**	**0.66**	**1.78**	**0.00**	**0.64**	**0.04**	**0.67**	**0.01**	**0.03**	**0.04**		**566.33**		**0.02**		**566.68**

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	1.60	5.90	19.79	0.04		0.29	0.29		0.29	0.29	0.00	3,233.11		0.22		3,237.63
Total	**1.60**	**5.90**	**19.79**	**0.04**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**3,233.11**		**0.22**		**3,237.63**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.04	0.54	0.29	0.00	0.06	0.02	0.07	0.00	0.01	0.02		166.93		0.00		166.97
Worker	0.15	0.12	1.49	0.00	0.58	0.02	0.60	0.01	0.02	0.02		399.40		0.02		399.71
Total	**0.19**	**0.66**	**1.78**	**0.00**	**0.64**	**0.04**	**0.67**	**0.01**	**0.03**	**0.04**		**566.33**		**0.02**		**566.68**

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.53					0.00	0.00		0.00	0.00						0.00
Off-Road	0.22	1.53	1.82	0.00		0.09	0.09		0.09	0.09		281.19		0.02		281.60
Total	**9.75**	**1.53**	**1.82**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**		**281.19**		**0.02**		**281.60**

3.5 Architectural Coating - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.03	0.02	0.31	0.00	0.12	0.00	0.13	0.00	0.00	0.01		84.08		0.00		84.15
Total	**0.03**	**0.02**	**0.31**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**84.08**		**0.00**		**84.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.53					0.00	0.00		0.00	0.00						0.00
Off-Road	0.22	1.53	1.82	0.00		0.09	0.09		0.09	0.09	0.00	281.19		0.02		281.60
Total	**9.75**	**1.53**	**1.82**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**281.19**		**0.02**		**281.60**

3.5 Architectural Coating - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.03	0.02	0.31	0.00	0.12	0.00	0.13	0.00	0.00	0.01		84.08		0.00		84.15
Total	**0.03**	**0.02**	**0.31**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**84.08**		**0.00**		**84.15**

3.6 Paving - 2021

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	2.38	15.12	15.98	0.03		1.04	1.04		1.04	1.04		2,393.42		0.21		2,397.88
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.38**	**15.12**	**15.98**	**0.03**		**1.04**	**1.04**		**1.04**	**1.04**		**2,393.42**		**0.21**		**2,397.88**

3.6 Paving - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.06**	**0.05**	**0.59**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**157.66**		**0.01**		**157.78**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.76	1.60	15.56	0.03		0.08	0.08		0.08	0.08	0.00	2,393.42		0.21		2,397.88
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.76**	**1.60**	**15.56**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,393.42**		**0.21**		**2,397.88**

3.6 Paving - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.06**	**0.05**	**0.59**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**157.66**		**0.01**		**157.78**

4.0 Mobile Detail

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	1.48	3.75	12.66	0.04	4.19	0.18	4.36	0.06	0.17	0.23		3,358.17		0.11		3,360.38
Unmitigated	1.48	3.75	12.66	0.04	4.19	0.18	4.36	0.06	0.17	0.23		3,358.17		0.11		3,360.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	349.27	379.48	321.71	1,164,531	1,164,531
Total	349.27	379.48	321.71	1,164,531	1,164,531

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
NaturalGas Unmitigated	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	2444.84	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total		**0.03**	**0.23**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**		**287.63**		**0.01**	**0.01**	**289.38**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	2.44484	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total		**0.03**	**0.23**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**		**287.63**		**0.01**	**0.01**	**289.38**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Unmitigated	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.11					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.04					0.00	0.00		0.00	0.00						0.00
Hearth	5.64	0.26	17.54	0.04		0.00	2.80		0.00	2.80	374.01	954.00		1.48	0.02	1,366.19
Landscaping	0.13	0.05	4.42	0.00		0.00	0.02		0.00	0.02		7.97		0.01		8.13
Total	**6.92**	**0.31**	**21.96**	**0.04**		**0.00**	**2.82**		**0.00**	**2.82**	**374.01**	**961.97**		**1.49**	**0.02**	**1,374.32**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.11					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.04					0.00	0.00		0.00	0.00						0.00
Hearth	5.64	0.26	17.54	0.04		0.00	2.80		0.00	2.80	374.01	954.00		1.48	0.02	1,366.19
Landscaping	0.13	0.05	4.42	0.00		0.00	0.02		0.00	0.02		7.97		0.01		8.13
Total	**6.92**	**0.31**	**21.96**	**0.04**		**0.00**	**2.82**		**0.00**	**2.82**	**374.01**	**961.97**		**1.49**	**0.02**	**1,374.32**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 4A

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	53	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 53 units in 52,460 sqft, 2.6 acre lot

Construction Phase - Demo: 7/1/2020 - 9/30/2020
Grading: 10/1/2020 - 12/31/2020
Building: 1/1/2021 - 6/30/2021
Coating: 5/1/2021 - 6/30/2021
Paving: 6/1/2021 - 6/30/2021

Demolition - 27,440 sqft demolished

Construction Off-road Equipment Mitigation -

Grading - 2.6 acres disturbed

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					
2020	3.22	23.24	20.00	0.04	6.22	1.07	7.18	3.31	1.06	4.27	0.00	4,225.30	0.00	0.29	0.00	4,231.32
2021	14.84	32.03	37.59	0.07	0.99	1.84	2.84	0.01	1.84	1.86	0.00	6,639.78	0.00	0.47	0.00	6,649.67
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2020	1.41	5.63	20.70	0.04	3.27	0.31	3.58	1.29	0.31	1.40	0.00	4,225.30	0.00	0.29	0.00	4,231.32
2021	12.39	9.78	39.57	0.07	0.99	0.51	1.50	0.01	0.50	0.52	0.00	6,639.78	0.00	0.47	0.00	6,649.67
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Energy	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Mobile	1.49	3.87	11.78	0.04	4.19	0.18	4.37	0.06	0.17	0.23		3,072.37		0.09		3,074.34
Total	**8.45**	**4.41**	**33.85**	**0.08**	**4.19**	**0.18**	**7.22**	**0.06**	**0.17**	**3.08**	**374.01**	**4,321.97**		**1.59**	**0.03**	**4,738.04**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Energy	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Mobile	1.49	3.87	11.78	0.04	4.19	0.18	4.37	0.06	0.17	0.23		3,072.37		0.09		3,074.34
Total	**8.45**	**4.41**	**33.85**	**0.08**	**4.19**	**0.18**	**7.22**	**0.06**	**0.17**	**3.08**	**374.01**	**4,321.97**		**1.59**	**0.03**	**4,738.04**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2020

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					0.41	0.00	0.41	0.00	0.00	0.00						0.00
Off-Road	3.12	22.67	19.24	0.04		1.04	1.04		1.04	1.04		3,946.47		0.28		3,952.35
Total	**3.12**	**22.67**	**19.24**	**0.04**	**0.41**	**1.04**	**1.45**	**0.00**	**1.04**	**1.04**		**3,946.47**		**0.28**		**3,952.35**

3.2 Demolition - 2020

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	0.05	0.52	0.30	0.00	2.91	0.02	2.93	0.00	0.02	0.02		156.61		0.00		156.66
Vendor	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
Worker	0.05	0.05	0.46	0.00	0.20	0.01	0.21	0.00	0.01	0.01		122.22		0.00		122.32
Total	**0.10**	**0.57**	**0.76**	**0.00**	**3.11**	**0.03**	**3.14**	**0.00**	**0.03**	**0.03**		**278.83**		**0.00**		**278.98**

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					0.16	0.00	0.16	0.00	0.00	0.00						0.00
Off-Road	1.31	5.07	19.94	0.04		0.29	0.29		0.29	0.29	0.00	3,946.47		0.28		3,952.35
Total	**1.31**	**5.07**	**19.94**	**0.04**	**0.16**	**0.29**	**0.45**	**0.00**	**0.29**	**0.29**	**0.00**	**3,946.47**		**0.28**		**3,952.35**

3.2 Demolition - 2020

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	0.05	0.52	0.30	0.00	2.91	0.02	2.93	0.00	0.02	0.02		156.61		0.00		156.66
Vendor	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
Worker	0.05	0.05	0.46	0.00	0.20	0.01	0.21	0.00	0.01	0.01		122.22		0.00		122.32
Total	**0.10**	**0.57**	**0.76**	**0.00**	**3.11**	**0.03**	**3.14**	**0.00**	**0.03**	**0.03**		**278.83**		**0.00**		**278.98**

3.3 Grading - 2020

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					6.06	0.00	6.06	3.31	0.00	3.31						0.00
Off-Road	3.07	21.40	17.97	0.04		0.96	0.96		0.96	0.96		3,827.58		0.27		3,833.34
Total	**3.07**	**21.40**	**17.97**	**0.04**	**6.06**	**0.96**	**7.02**	**3.31**	**0.96**	**4.27**		**3,827.58**		**0.27**		**3,833.34**

3.3 Grading - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.04	0.35	0.00	0.15	0.00	0.16	0.00	0.00	0.01		94.01		0.00		94.09
Total	**0.04**	**0.04**	**0.35**	**0.00**	**0.15**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**94.01**		**0.00**		**94.09**

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					2.36	0.00	2.36	1.29	0.00	1.29						0.00
Off-Road	0.98	2.02	19.34	0.04		0.10	0.10		0.10	0.10	0.00	3,827.58		0.27		3,833.34
Total	**0.98**	**2.02**	**19.34**	**0.04**	**2.36**	**0.10**	**2.46**	**1.29**	**0.10**	**1.39**	**0.00**	**3,827.58**		**0.27**		**3,833.34**

3.3 Grading - 2020

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.04	0.35	0.00	0.15	0.00	0.16	0.00	0.00	0.01		94.01		0.00		94.09
Total	**0.04**	**0.04**	**0.35**	**0.00**	**0.15**	**0.00**	**0.16**	**0.00**	**0.00**	**0.01**		**94.01**		**0.00**		**94.09**

3.4 Building Construction - 2021

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	2.42	14.64	17.40	0.04		0.67	0.67		0.67	0.67		3,233.11		0.22		3,237.63
Total	**2.42**	**14.64**	**17.40**	**0.04**		**0.67**	**0.67**		**0.67**	**0.67**		**3,233.11**		**0.22**		**3,237.63**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.05	0.54	0.35	0.00	0.06	0.02	0.07	0.00	0.01	0.02		165.36		0.00		165.41
Worker	0.15	0.13	1.28	0.00	0.58	0.02	0.60	0.01	0.02	0.02		353.03		0.01		353.31
Total	**0.20**	**0.67**	**1.63**	**0.00**	**0.64**	**0.04**	**0.67**	**0.01**	**0.03**	**0.04**		**518.39**		**0.01**		**518.72**

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	1.60	5.90	19.79	0.04		0.29	0.29		0.29	0.29	0.00	3,233.11		0.22		3,237.63
Total	**1.60**	**5.90**	**19.79**	**0.04**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**3,233.11**		**0.22**		**3,237.63**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.05	0.54	0.35	0.00	0.06	0.02	0.07	0.00	0.01	0.02		165.36		0.00		165.41
Worker	0.15	0.13	1.28	0.00	0.58	0.02	0.60	0.01	0.02	0.02		353.03		0.01		353.31
Total	**0.20**	**0.67**	**1.63**	**0.00**	**0.64**	**0.04**	**0.67**	**0.01**	**0.03**	**0.04**		**518.39**		**0.01**		**518.72**

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.53					0.00	0.00		0.00	0.00						0.00
Off-Road	0.22	1.53	1.82	0.00		0.09	0.09		0.09	0.09		281.19		0.02		281.60
Total	**9.75**	**1.53**	**1.82**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**		**281.19**		**0.02**		**281.60**

3.5 Architectural Coating - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.03	0.03	0.27	0.00	0.12	0.00	0.13	0.00	0.00	0.01		74.32		0.00		74.38
Total	**0.03**	**0.03**	**0.27**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**74.32**		**0.00**		**74.38**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.53					0.00	0.00		0.00	0.00						0.00
Off-Road	0.22	1.53	1.82	0.00		0.09	0.09		0.09	0.09	0.00	281.19		0.02		281.60
Total	**9.75**	**1.53**	**1.82**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**281.19**		**0.02**		**281.60**

3.5 Architectural Coating - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.03	0.03	0.27	0.00	0.12	0.00	0.13	0.00	0.00	0.01		74.32		0.00		74.38
Total	**0.03**	**0.03**	**0.27**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**74.32**		**0.00**		**74.38**

3.6 Paving - 2021

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	2.38	15.12	15.98	0.03		1.04	1.04		1.04	1.04		2,393.42		0.21		2,397.88
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.38**	**15.12**	**15.98**	**0.03**		**1.04**	**1.04**		**1.04**	**1.04**		**2,393.42**		**0.21**		**2,397.88**

3.6 Paving - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.06**	**0.05**	**0.50**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**139.35**		**0.01**		**139.47**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.76	1.60	15.56	0.03		0.08	0.08		0.08	0.08	0.00	2,393.42		0.21		2,397.88
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.76**	**1.60**	**15.56**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,393.42**		**0.21**		**2,397.88**

3.6 Paving - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.06**	**0.05**	**0.50**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**139.35**		**0.01**		**139.47**

4.0 Mobile Detail

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	1.49	3.87	11.78	0.04	4.19	0.18	4.37	0.06	0.17	0.23		3,072.37		0.09		3,074.34
Unmitigated	1.49	3.87	11.78	0.04	4.19	0.18	4.37	0.06	0.17	0.23		3,072.37		0.09		3,074.34
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	349.27	379.48	321.71	1,164,531	1,164,531
Total	349.27	379.48	321.71	1,164,531	1,164,531

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
NaturalGas Unmitigated	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	2444.84	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total		**0.03**	**0.23**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**		**287.63**		**0.01**	**0.01**	**289.38**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	2.44484	0.03	0.23	0.10	0.00		0.00	0.02		0.00	0.02		287.63		0.01	0.01	289.38
Total		**0.03**	**0.23**	**0.10**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**		**287.63**		**0.01**	**0.01**	**289.38**

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	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Unmitigated	6.93	0.31	21.97	0.04		0.00	2.83		0.00	2.83	374.01	961.97		1.49	0.02	1,374.32
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.11					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.04					0.00	0.00		0.00	0.00						0.00
Hearth	5.64	0.26	17.54	0.04		0.00	2.80		0.00	2.80	374.01	954.00		1.48	0.02	1,366.19
Landscaping	0.13	0.05	4.42	0.00		0.00	0.02		0.00	0.02		7.97		0.01		8.13
Total	**6.92**	**0.31**	**21.96**	**0.04**		**0.00**	**2.82**		**0.00**	**2.82**	**374.01**	**961.97**		**1.49**	**0.02**	**1,374.32**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.11					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.04					0.00	0.00		0.00	0.00						0.00
Hearth	5.64	0.26	17.54	0.04		0.00	2.80		0.00	2.80	374.01	954.00		1.48	0.02	1,366.19
Landscaping	0.13	0.05	4.42	0.00		0.00	0.02		0.00	0.02		7.97		0.01		8.13
Total	**6.92**	**0.31**	**21.96**	**0.04**		**0.00**	**2.82**		**0.00**	**2.82**	**374.01**	**961.97**		**1.49**	**0.02**	**1,374.32**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 4B

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	83	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 83 units in 81,170 sqft, 5.9 acre lot

Construction Phase - Demo: 4/1/2021 - 6/30/2021
Grading: 7/1/2021 - 9/30/2021
Building: 10/1/2021 - 9/30/2022
Coating: 7/1/2022 - 9/30/2022
Paving: 8/1/2022 - 9/30/2022

Demolition - 76,120 sqft demolished

Construction Off-road Equipment Mitigation -

Grading - 5.9 acres disturbed

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					
2021	5.61	37.54	34.95	0.08	9.45	1.62	11.07	3.31	1.61	4.42	0.00	8,113.80	0.00	0.50	0.00	8,124.21
2022	15.62	35.93	47.14	0.09	1.42	2.11	3.53	0.02	2.10	2.12	0.00	8,389.87	0.00	0.54	0.00	8,401.18
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2021	2.26	8.08	38.83	0.08	8.75	0.41	9.15	1.29	0.41	1.44	0.00	8,113.80	0.00	0.50	0.00	8,124.21
2022	12.38	7.45	49.02	0.09	1.42	0.39	1.81	0.02	0.38	0.40	0.00	8,389.87	0.00	0.54	0.00	8,401.18
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Energy	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Mobile	2.31	5.87	19.82	0.06	6.56	0.28	6.83	0.09	0.26	0.36		5,259.03		0.16		5,262.49
Total	**13.17**	**6.70**	**54.37**	**0.13**	**6.56**	**0.28**	**11.29**	**0.09**	**0.26**	**4.82**	**585.71**	**7,215.95**		**2.50**	**0.05**	**7,867.91**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Energy	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Mobile	2.31	5.87	19.82	0.06	6.56	0.28	6.83	0.09	0.26	0.36		5,259.03		0.16		5,262.49
Total	**13.17**	**6.70**	**54.37**	**0.13**	**6.56**	**0.28**	**11.29**	**0.09**	**0.26**	**4.82**	**585.71**	**7,215.95**		**2.50**	**0.05**	**7,867.91**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.15	0.00	1.15	0.00	0.00	0.00						0.00
Off-Road	5.43	36.15	33.66	0.07		1.57	1.57		1.57	1.57		7,510.81		0.48		7,520.98
Total	**5.43**	**36.15**	**33.66**	**0.07**	**1.15**	**1.57**	**2.72**	**0.00**	**1.57**	**1.57**		**7,510.81**		**0.48**		**7,520.98**

3.2 Demolition - 2021

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	0.12	1.35	0.70	0.00	8.07	0.05	8.11	0.00	0.04	0.05		445.33		0.01		445.45
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.18**	**1.40**	**1.29**	**0.00**	**8.30**	**0.06**	**8.35**	**0.00**	**0.05**	**0.06**		**602.99**		**0.02**		**603.23**

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					0.45	0.00	0.45	0.00	0.00	0.00						0.00
Off-Road	2.09	6.69	37.55	0.07		0.36	0.36		0.36	0.36	0.00	7,510.81		0.48		7,520.98
Total	**2.09**	**6.69**	**37.55**	**0.07**	**0.45**	**0.36**	**0.81**	**0.00**	**0.36**	**0.36**	**0.00**	**7,510.81**		**0.48**		**7,520.98**

3.2 Demolition - 2021

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	0.12	1.35	0.70	0.00	8.07	0.05	8.11	0.00	0.04	0.05		445.33		0.01		445.45
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.18**	**1.40**	**1.29**	**0.00**	**8.30**	**0.06**	**8.35**	**0.00**	**0.05**	**0.06**		**602.99**		**0.02**		**603.23**

3.3 Grading - 2021

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					6.12	0.00	6.12	3.31	0.00	3.31						0.00
Off-Road	3.76	24.66	26.29	0.05		1.10	1.10		1.10	1.10		5,240.07		0.33		5,247.10
Total	**3.76**	**24.66**	**26.29**	**0.05**	**6.12**	**1.10**	**7.22**	**3.31**	**1.10**	**4.41**		**5,240.07**		**0.33**		**5,247.10**

3.3 Grading - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.06**	**0.05**	**0.59**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**157.66**		**0.01**		**157.78**

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					2.39	0.00	2.39	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.33		5,247.10
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.39**	**0.14**	**2.53**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.33**		**5,247.10**

3.3 Grading - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.59	0.00	0.23	0.01	0.24	0.00	0.01	0.01		157.66		0.01		157.78
Total	**0.06**	**0.05**	**0.59**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**157.66**		**0.01**		**157.78**

3.4 Building Construction - 2021

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	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.81	0.43	0.00	0.08	0.02	0.11	0.00	0.02	0.02		250.39		0.00		250.46
Worker	0.23	0.18	2.36	0.01	0.92	0.03	0.95	0.01	0.03	0.04		630.63		0.02		631.13
Total	**0.29**	**0.99**	**2.79**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**881.02**		**0.02**		**881.59**

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	1.34	3.53	24.61	0.04		0.18	0.18		0.18	0.18	0.00	4,040.61		0.23		4,045.38
Total	**1.34**	**3.53**	**24.61**	**0.04**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.81	0.43	0.00	0.08	0.02	0.11	0.00	0.02	0.02		250.39		0.00		250.46
Worker	0.23	0.18	2.36	0.01	0.92	0.03	0.95	0.01	0.03	0.04		630.63		0.02		631.13
Total	**0.29**	**0.99**	**2.79**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**881.02**		**0.02**		**881.59**

3.4 Building Construction - 2022

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	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

3.4 Building Construction - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.77	0.41	0.00	0.08	0.02	0.11	0.00	0.02	0.02		250.57		0.00		250.64
Worker	0.22	0.17	2.22	0.01	0.92	0.03	0.95	0.01	0.03	0.04		620.58		0.02		621.06
Total	**0.28**	**0.94**	**2.63**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**871.15**		**0.02**		**871.70**

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	1.31	3.49	24.58	0.04		0.17	0.17		0.17	0.17	0.00	4,040.61		0.21		4,045.05
Total	**1.31**	**3.49**	**24.58**	**0.04**		**0.17**	**0.17**		**0.17**	**0.17**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

3.4 Building Construction - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.06	0.77	0.41	0.00	0.08	0.02	0.11	0.00	0.02	0.02		250.57		0.00		250.64
Worker	0.22	0.17	2.22	0.01	0.92	0.03	0.95	0.01	0.03	0.04		620.58		0.02		621.06
Total	**0.28**	**0.94**	**2.63**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**871.15**		**0.02**		**871.70**

3.5 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.61					0.00	0.00		0.00	0.00						0.00
Off-Road	0.20	1.41	1.81	0.00		0.08	0.08		0.08	0.08		281.19		0.02		281.57
Total	**9.81**	**1.41**	**1.81**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**		**281.19**		**0.02**		**281.57**

3.5 Architectural Coating - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.03	0.44	0.00	0.18	0.01	0.19	0.00	0.01	0.01		124.12		0.00		124.21
Total	**0.04**	**0.03**	**0.44**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**124.12**		**0.00**		**124.21**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.61					0.00	0.00		0.00	0.00						0.00
Off-Road	0.20	1.41	1.81	0.00		0.08	0.08		0.08	0.08	0.00	281.19		0.02		281.57
Total	**9.81**	**1.41**	**1.81**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**281.19**		**0.02**		**281.57**

3.5 Architectural Coating - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.03	0.44	0.00	0.18	0.01	0.19	0.00	0.01	0.01		124.12		0.00		124.21
Total	**0.04**	**0.03**	**0.44**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**124.12**		**0.00**		**124.21**

3.6 Paving - 2022

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	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

3.6 Paving - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.04	0.55	0.00	0.23	0.01	0.24	0.00	0.01	0.01		155.15		0.01		155.27
Total	**0.06**	**0.04**	**0.55**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**155.15**		**0.01**		**155.27**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

3.6 Paving - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.04	0.55	0.00	0.23	0.01	0.24	0.00	0.01	0.01		155.15		0.01		155.27
Total	**0.06**	**0.04**	**0.55**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**155.15**		**0.01**		**155.27**

4.0 Mobile Detail

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	2.31	5.87	19.82	0.06	6.56	0.28	6.83	0.09	0.26	0.36		5,259.03		0.16		5,262.49
Unmitigated	2.31	5.87	19.82	0.06	6.56	0.28	6.83	0.09	0.26	0.36		5,259.03		0.16		5,262.49
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	546.97	594.28	503.81	1,823,699	1,823,699
Total	546.97	594.28	503.81	1,823,699	1,823,699

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
NaturalGas Unmitigated	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	3828.71	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total		**0.04**	**0.35**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**450.44**		**0.01**	**0.01**	**453.18**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	3.82871	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total		**0.04**	**0.35**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**450.44**		**0.01**	**0.01**	**453.18**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Unmitigated	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.17					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.61					0.00	0.00		0.00	0.00						0.00
Hearth	8.83	0.41	27.47	0.07		0.00	4.39		0.00	4.39	585.71	1,494.00		2.32	0.04	2,139.51
Landscaping	0.21	0.08	6.93	0.00		0.00	0.04		0.00	0.04		12.48		0.01		12.73
Total	**10.82**	**0.49**	**34.40**	**0.07**		**0.00**	**4.43**		**0.00**	**4.43**	**585.71**	**1,506.48**		**2.33**	**0.04**	**2,152.24**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.17					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.61					0.00	0.00		0.00	0.00						0.00
Hearth	8.83	0.41	27.47	0.07		0.00	4.39		0.00	4.39	585.71	1,494.00		2.32	0.04	2,139.51
Landscaping	0.21	0.08	6.93	0.00		0.00	0.04		0.00	0.04		12.48		0.01		12.73
Total	**10.82**	**0.49**	**34.40**	**0.07**		**0.00**	**4.43**		**0.00**	**4.43**	**585.71**	**1,506.48**		**2.33**	**0.04**	**2,152.24**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Construction Phase 4B

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	83	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 83 units in 81,170 sqft, 5.9 acre lot

Construction Phase - Demo: 4/1/2021 - 6/30/2021
Grading: 7/1/2021 - 9/30/2021
Building: 10/1/2021 - 9/30/2022
Coating: 7/1/2022 - 9/30/2022
Paving: 8/1/2022 - 9/30/2022

Demolition - 76,120 sqft demolished

Construction Off-road Equipment Mitigation -

Grading - 5.9 acres disturbed

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					
2021	5.61	37.57	34.97	0.08	9.45	1.62	11.07	3.31	1.62	4.42	0.00	8,092.71	0.00	0.50	0.00	8,103.12
2022	15.63	35.95	46.76	0.09	1.42	2.11	3.53	0.02	2.10	2.12	0.00	8,282.87	0.00	0.54	0.00	8,294.11
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2021	2.27	8.11	38.86	0.08	8.75	0.41	9.16	1.29	0.41	1.44	0.00	8,092.71	0.00	0.50	0.00	8,103.12
2022	12.39	7.48	48.64	0.09	1.42	0.39	1.81	0.02	0.38	0.40	0.00	8,282.87	0.00	0.54	0.00	8,294.11
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Energy	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Mobile	2.34	6.06	18.45	0.06	6.56	0.28	6.84	0.09	0.26	0.36		4,811.45		0.15		4,814.54
Total	**13.20**	**6.89**	**53.00**	**0.13**	**6.56**	**0.28**	**11.30**	**0.09**	**0.26**	**4.82**	**585.71**	**6,768.37**		**2.49**	**0.05**	**7,419.96**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Energy	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Mobile	2.34	6.06	18.45	0.06	6.56	0.28	6.84	0.09	0.26	0.36		4,811.45		0.15		4,814.54
Total	**13.20**	**6.89**	**53.00**	**0.13**	**6.56**	**0.28**	**11.30**	**0.09**	**0.26**	**4.82**	**585.71**	**6,768.37**		**2.49**	**0.05**	**7,419.96**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.15	0.00	1.15	0.00	0.00	0.00						0.00
Off-Road	5.43	36.15	33.66	0.07		1.57	1.57		1.57	1.57		7,510.81		0.48		7,520.98
Total	**5.43**	**36.15**	**33.66**	**0.07**	**1.15**	**1.57**	**2.72**	**0.00**	**1.57**	**1.57**		**7,510.81**		**0.48**		**7,520.98**

3.2 Demolition - 2021

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	0.12	1.37	0.80	0.00	8.07	0.05	8.11	0.00	0.04	0.05		442.55		0.01		442.67
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.18**	**1.42**	**1.30**	**0.00**	**8.30**	**0.06**	**8.35**	**0.00**	**0.05**	**0.06**		**581.90**		**0.02**		**582.14**

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					0.45	0.00	0.45	0.00	0.00	0.00						0.00
Off-Road	2.09	6.69	37.55	0.07		0.36	0.36		0.36	0.36	0.00	7,510.81		0.48		7,520.98
Total	**2.09**	**6.69**	**37.55**	**0.07**	**0.45**	**0.36**	**0.81**	**0.00**	**0.36**	**0.36**	**0.00**	**7,510.81**		**0.48**		**7,520.98**

3.2 Demolition - 2021

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	0.12	1.37	0.80	0.00	8.07	0.05	8.11	0.00	0.04	0.05		442.55		0.01		442.67
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.18**	**1.42**	**1.30**	**0.00**	**8.30**	**0.06**	**8.35**	**0.00**	**0.05**	**0.06**		**581.90**		**0.02**		**582.14**

3.3 Grading - 2021

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					6.12	0.00	6.12	3.31	0.00	3.31						0.00
Off-Road	3.76	24.66	26.29	0.05		1.10	1.10		1.10	1.10		5,240.07		0.33		5,247.10
Total	**3.76**	**24.66**	**26.29**	**0.05**	**6.12**	**1.10**	**7.22**	**3.31**	**1.10**	**4.41**		**5,240.07**		**0.33**		**5,247.10**

3.3 Grading - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.06**	**0.05**	**0.50**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**139.35**		**0.01**		**139.47**

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					2.39	0.00	2.39	1.29	0.00	1.29						0.00
Off-Road	1.36	2.77	28.53	0.05		0.14	0.14		0.14	0.14	0.00	5,240.07		0.33		5,247.10
Total	**1.36**	**2.77**	**28.53**	**0.05**	**2.39**	**0.14**	**2.53**	**1.29**	**0.14**	**1.43**	**0.00**	**5,240.07**		**0.33**		**5,247.10**

3.3 Grading - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.50	0.00	0.23	0.01	0.24	0.00	0.01	0.01		139.35		0.01		139.47
Total	**0.06**	**0.05**	**0.50**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**139.35**		**0.01**		**139.47**

3.4 Building Construction - 2021

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	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.81	0.53	0.00	0.08	0.02	0.11	0.00	0.02	0.02		248.04		0.00		248.11
Worker	0.23	0.20	2.01	0.01	0.92	0.03	0.95	0.01	0.03	0.04		557.41		0.02		557.87
Total	**0.30**	**1.01**	**2.54**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**805.45**		**0.02**		**805.98**

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	1.34	3.53	24.61	0.04		0.18	0.18		0.18	0.18	0.00	4,040.61		0.23		4,045.38
Total	**1.34**	**3.53**	**24.61**	**0.04**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

3.4 Building Construction - 2021

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.81	0.53	0.00	0.08	0.02	0.11	0.00	0.02	0.02		248.04		0.00		248.11
Worker	0.23	0.20	2.01	0.01	0.92	0.03	0.95	0.01	0.03	0.04		557.41		0.02		557.87
Total	**0.30**	**1.01**	**2.54**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**805.45**		**0.02**		**805.98**

3.4 Building Construction - 2022

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	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

3.4 Building Construction - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.77	0.51	0.00	0.08	0.02	0.11	0.00	0.02	0.02		248.19		0.00		248.26
Worker	0.22	0.19	1.89	0.01	0.92	0.03	0.95	0.01	0.03	0.04		548.43		0.02		548.86
Total	**0.29**	**0.96**	**2.40**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**796.62**		**0.02**		**797.12**

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	1.31	3.49	24.58	0.04		0.17	0.17		0.17	0.17	0.00	4,040.61		0.21		4,045.05
Total	**1.31**	**3.49**	**24.58**	**0.04**		**0.17**	**0.17**		**0.17**	**0.17**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

3.4 Building Construction - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.07	0.77	0.51	0.00	0.08	0.02	0.11	0.00	0.02	0.02		248.19		0.00		248.26
Worker	0.22	0.19	1.89	0.01	0.92	0.03	0.95	0.01	0.03	0.04		548.43		0.02		548.86
Total	**0.29**	**0.96**	**2.40**	**0.01**	**1.00**	**0.05**	**1.06**	**0.01**	**0.05**	**0.06**		**796.62**		**0.02**		**797.12**

3.5 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.61					0.00	0.00		0.00	0.00						0.00
Off-Road	0.20	1.41	1.81	0.00		0.08	0.08		0.08	0.08		281.19		0.02		281.57
Total	**9.81**	**1.41**	**1.81**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**		**281.19**		**0.02**		**281.57**

3.5 Architectural Coating - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.04	0.38	0.00	0.18	0.01	0.19	0.00	0.01	0.01		109.69		0.00		109.77
Total	**0.04**	**0.04**	**0.38**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**109.69**		**0.00**		**109.77**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.61					0.00	0.00		0.00	0.00						0.00
Off-Road	0.20	1.41	1.81	0.00		0.08	0.08		0.08	0.08	0.00	281.19		0.02		281.57
Total	**9.81**	**1.41**	**1.81**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**281.19**		**0.02**		**281.57**

3.5 Architectural Coating - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.04	0.04	0.38	0.00	0.18	0.01	0.19	0.00	0.01	0.01		109.69		0.00		109.77
Total	**0.04**	**0.04**	**0.38**	**0.00**	**0.18**	**0.01**	**0.19**	**0.00**	**0.01**	**0.01**		**109.69**		**0.00**		**109.77**

3.6 Paving - 2022

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	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

3.6 Paving - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.47	0.00	0.23	0.01	0.24	0.00	0.01	0.01		137.11		0.01		137.22
Total	**0.06**	**0.05**	**0.47**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**137.11**		**0.01**		**137.22**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

3.6 Paving - 2022

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	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
Worker	0.06	0.05	0.47	0.00	0.23	0.01	0.24	0.00	0.01	0.01		137.11		0.01		137.22
Total	**0.06**	**0.05**	**0.47**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**137.11**		**0.01**		**137.22**

4.0 Mobile Detail

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	2.34	6.06	18.45	0.06	6.56	0.28	6.84	0.09	0.26	0.36		4,811.45		0.15		4,814.54
Unmitigated	2.34	6.06	18.45	0.06	6.56	0.28	6.84	0.09	0.26	0.36		4,811.45		0.15		4,814.54
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	546.97	594.28	503.81	1,823,699	1,823,699
Total	546.97	594.28	503.81	1,823,699	1,823,699

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
NaturalGas Unmitigated	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	3828.71	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total		**0.04**	**0.35**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**450.44**		**0.01**	**0.01**	**453.18**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	3.82871	0.04	0.35	0.15	0.00		0.00	0.03		0.00	0.03		450.44		0.01	0.01	453.18
Total		**0.04**	**0.35**	**0.15**	**0.00**		**0.00**	**0.03**		**0.00**	**0.03**		**450.44**		**0.01**	**0.01**	**453.18**

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	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Unmitigated	10.82	0.48	34.40	0.07		0.00	4.43		0.00	4.43	585.71	1,506.48		2.33	0.04	2,152.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.17					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.61					0.00	0.00		0.00	0.00						0.00
Hearth	8.83	0.41	27.47	0.07		0.00	4.39		0.00	4.39	585.71	1,494.00		2.32	0.04	2,139.51
Landscaping	0.21	0.08	6.93	0.00		0.00	0.04		0.00	0.04		12.48		0.01		12.73
Total	**10.82**	**0.49**	**34.40**	**0.07**		**0.00**	**4.43**		**0.00**	**4.43**	**585.71**	**1,506.48**		**2.33**	**0.04**	**2,152.24**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.17					0.00	0.00		0.00	0.00						0.00
Consumer Products	1.61					0.00	0.00		0.00	0.00						0.00
Hearth	8.83	0.41	27.47	0.07		0.00	4.39		0.00	4.39	585.71	1,494.00		2.32	0.04	2,139.51
Landscaping	0.21	0.08	6.93	0.00		0.00	0.04		0.00	0.04		12.48		0.01		12.73
Total	**10.82**	**0.49**	**34.40**	**0.07**		**0.00**	**4.43**		**0.00**	**4.43**	**585.71**	**1,506.48**		**2.33**	**0.04**	**2,152.24**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

APPENDIX B

Existing Operational Emissions Calculations

Waterman Gardens - Existing

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	252	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 252 existing units on 38 acres.

Construction Phase - Operation only, no construction.

Vehicle Trips - 10.3 trips per day per unit based on actual trip counts of 2,598 total trips per day.

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

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					
2011	10.17	82.51	48.42	0.08	5.54	4.22	9.75	0.02	4.22	4.23	0.00	8,014.90	0.00	0.90	0.00	8,033.88
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2011	10.17	82.51	48.42	0.08	5.03	4.22	9.25	0.02	4.22	4.23	0.00	8,014.90	0.00	0.90	0.00	8,033.88
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Energy	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Mobile	19.43	53.53	198.08	0.27	28.63	1.95	30.57	1.00	1.95	2.94		28,500.47		1.45		28,530.86
Total	**52.68**	**56.09**	**304.08**	**0.48**	**28.63**	**1.95**	**44.10**	**1.00**	**1.95**	**16.46**	**1,778.30**	**34,441.95**		**8.56**	**0.14**	**36,441.46**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Energy	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Mobile	19.43	53.53	198.08	0.27	28.63	1.95	30.57	1.00	1.95	2.94		28,500.47		1.45		28,530.86
Total	**52.68**	**56.09**	**304.08**	**0.48**	**28.63**	**1.95**	**44.10**	**1.00**	**1.95**	**16.46**	**1,778.30**	**34,441.95**		**8.56**	**0.14**	**36,441.46**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Demolition - 2011

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					0.83	0.00	0.83	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.83**	**4.10**	**4.93**	**0.00**	**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.52	1.13	0.00	4.48	0.11	4.59	0.01	0.11	0.12		312.75		0.01		312.97
Vendor	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
Worker	0.11	0.12	1.34	0.00	0.23	0.01	0.24	0.01	0.01	0.02		191.33		0.01		191.58
Total	**0.33**	**2.64**	**2.47**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**504.08**		**0.02**		**504.55**

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.32**	**4.10**	**4.42**	**0.00**	**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.52	1.13	0.00	4.48	0.11	4.59	0.01	0.11	0.12		312.75		0.01		312.97
Vendor	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
Worker	0.11	0.12	1.34	0.00	0.23	0.01	0.24	0.01	0.01	0.02		191.33		0.01		191.58
Total	**0.33**	**2.64**	**2.47**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**504.08**		**0.02**		**504.55**

4.0 Mobile Detail

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	19.43	53.53	198.08	0.27	28.63	1.95	30.57	1.00	1.95	2.94		28,500.47		1.45		28,530.86
Unmitigated	19.43	53.53	198.08	0.27	28.63	1.95	30.57	1.00	1.95	2.94		28,500.47		1.45		28,530.86
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,595.60	2,595.60	2595.60	8,644,839	8,644,839
Total	2,595.60	2,595.60	2,595.60	8,644,839	8,644,839

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
NaturalGas Unmitigated	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	11624.5	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total		**0.13**	**1.07**	**0.46**	**0.01**		**0.00**	**0.09**		**0.00**	**0.09**		**1,367.59**		**0.03**	**0.03**	**1,375.91**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	11.6245	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total		**0.13**	**1.07**	**0.46**	**0.01**		**0.00**	**0.09**		**0.00**	**0.09**		**1,367.59**		**0.03**	**0.03**	**1,375.91**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Unmitigated	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.54					0.00	0.00		0.00	0.00						0.00
Consumer Products	4.99					0.00	0.00		0.00	0.00						0.00
Hearth	26.82	1.23	83.41	0.20		0.00	13.33		0.00	13.32	1,778.30	4,536.00		7.04	0.11	6,495.86
Landscaping	0.77	0.26	22.13	0.00		0.00	0.11		0.00	0.11		37.89		0.04		38.82
Total	**33.12**	**1.49**	**105.54**	**0.20**		**0.00**	**13.44**		**0.00**	**13.43**	**1,778.30**	**4,573.89**		**7.08**	**0.11**	**6,534.68**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.54					0.00	0.00		0.00	0.00						0.00
Consumer Products	4.99					0.00	0.00		0.00	0.00						0.00
Hearth	26.82	1.23	83.41	0.20		0.00	13.33		0.00	13.32	1,778.30	4,536.00		7.04	0.11	6,495.86
Landscaping	0.77	0.26	22.13	0.00		0.00	0.11		0.00	0.11		37.89		0.04		38.82
Total	**33.12**	**1.49**	**105.54**	**0.20**		**0.00**	**13.44**		**0.00**	**13.43**	**1,778.30**	**4,573.89**		**7.08**	**0.11**	**6,534.68**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Existing

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Low Rise	252	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - 252 existing units on 38 acres.

Construction Phase - Operation only, no construction.

Vehicle Trips - 10.3 trips per day per unit based on actual trip counts of 2,598 total trips per day.

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

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					
2011	10.18	82.64	48.33	0.08	5.54	4.22	9.76	0.02	4.22	4.24	0.00	7,991.27	0.00	0.90	0.00	8,010.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2011	10.18	82.64	48.33	0.08	5.03	4.22	9.25	0.02	4.22	4.24	0.00	7,991.27	0.00	0.90	0.00	8,010.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Energy	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Mobile	19.57	56.85	182.55	0.24	28.63	1.97	30.60	1.00	1.97	2.97		25,872.54		1.37		25,901.37
Total	**52.82**	**59.41**	**288.55**	**0.45**	**28.63**	**1.97**	**44.13**	**1.00**	**1.97**	**16.49**	**1,778.30**	**31,814.02**		**8.48**	**0.14**	**33,811.97**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Energy	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Mobile	19.57	56.85	182.55	0.24	28.63	1.97	30.60	1.00	1.97	2.97		25,872.54		1.37		25,901.37
Total	**52.82**	**59.41**	**288.55**	**0.45**	**28.63**	**1.97**	**44.13**	**1.00**	**1.97**	**16.49**	**1,778.30**	**31,814.02**		**8.48**	**0.14**	**33,811.97**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Demolition - 2011

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					0.83	0.00	0.83	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.83**	**4.10**	**4.93**	**0.00**	**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.63	1.21	0.00	4.48	0.11	4.59	0.01	0.11	0.12		311.04		0.01		311.26
Vendor	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
Worker	0.12	0.13	1.18	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.41		0.01		169.64
Total	**0.34**	**2.76**	**2.39**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**480.45**		**0.02**		**480.90**

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.32**	**4.10**	**4.42**	**0.00**	**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.63	1.21	0.00	4.48	0.11	4.59	0.01	0.11	0.12		311.04		0.01		311.26
Vendor	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
Worker	0.12	0.13	1.18	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.41		0.01		169.64
Total	**0.34**	**2.76**	**2.39**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**480.45**		**0.02**		**480.90**

4.0 Mobile Detail

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	19.57	56.85	182.55	0.24	28.63	1.97	30.60	1.00	1.97	2.97		25,872.54		1.37		25,901.37
Unmitigated	19.57	56.85	182.55	0.24	28.63	1.97	30.60	1.00	1.97	2.97		25,872.54		1.37		25,901.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,595.60	2,595.60	2595.60	8,644,839	8,644,839
Total	2,595.60	2,595.60	2,595.60	8,644,839	8,644,839

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

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	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
NaturalGas Unmitigated	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	11624.5	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total		**0.13**	**1.07**	**0.46**	**0.01**		**0.00**	**0.09**		**0.00**	**0.09**		**1,367.59**		**0.03**	**0.03**	**1,375.91**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	11.6245	0.13	1.07	0.46	0.01		0.00	0.09		0.00	0.09		1,367.59		0.03	0.03	1,375.91
Total		**0.13**	**1.07**	**0.46**	**0.01**		**0.00**	**0.09**		**0.00**	**0.09**		**1,367.59**		**0.03**	**0.03**	**1,375.91**

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	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Unmitigated	33.12	1.49	105.54	0.20		0.00	13.44		0.00	13.43	1,778.30	4,573.89		7.08	0.11	6,534.69
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.54					0.00	0.00		0.00	0.00						0.00
Consumer Products	4.99					0.00	0.00		0.00	0.00						0.00
Hearth	26.82	1.23	83.41	0.20		0.00	13.33		0.00	13.32	1,778.30	4,536.00		7.04	0.11	6,495.86
Landscaping	0.77	0.26	22.13	0.00		0.00	0.11		0.00	0.11		37.89		0.04		38.82
Total	**33.12**	**1.49**	**105.54**	**0.20**		**0.00**	**13.44**		**0.00**	**13.43**	**1,778.30**	**4,573.89**		**7.08**	**0.11**	**6,534.68**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.54					0.00	0.00		0.00	0.00						0.00
Consumer Products	4.99					0.00	0.00		0.00	0.00						0.00
Hearth	26.82	1.23	83.41	0.20		0.00	13.33		0.00	13.32	1,778.30	4,536.00		7.04	0.11	6,495.86
Landscaping	0.77	0.26	22.13	0.00		0.00	0.11		0.00	0.11		37.89		0.04		38.82
Total	**33.12**	**1.49**	**105.54**	**0.20**		**0.00**	**13.44**		**0.00**	**13.43**	**1,778.30**	**4,573.89**		**7.08**	**0.11**	**6,534.68**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

APPENDIX C

Project Operational Emissions Calculations

Waterman Gardens - Operational

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	12	1000sqft
General Light Industry	26	1000sqft
Racquet Club	104	1000sqft
Apartments Low Rise	427	Dwelling Unit
Retirement Community	73	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - Admin center - 12,000 sqft on 0.5 acres.
Youth center - 26,000 sqft on 1 acre.
Community center - 104,000 sqft on 12.5 acres.
Residences - 427 units on 20.8 acres.
Senior residences - 73 units on 3.2 acres.

Vehicle Trips - Residential trip rates estimated at 6.65 trips per day per unit.
Total trip rate for community center estimated at 22.80 trips per day per ksf, with 50% being internal trips. Net rate therefore 11.4 trips per day per ksf.
Estimated zero trips for youth center.

Woodstoves - No woodstoves or fireplaces planned.

Energy Use - Energy Use - CalEEMod default values for Retirement Community (CalEEMod User's Guide, Version 2011.1, Appendix D [February 2011]).
Values are converted to a per square foot basis.

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					
2011	10.17	82.51	48.42	0.08	5.54	4.22	9.75	0.02	4.22	4.23	0.00	8,014.90	0.00	0.90	0.00	8,033.88
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2011	10.17	82.51	48.42	0.08	5.03	4.22	9.25	0.02	4.22	4.23	0.00	8,014.90	0.00	0.90	0.00	8,033.88
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Energy	0.40	3.49	2.18	0.02		0.00	0.27		0.00	0.27		4,332.70		0.08	0.08	4,359.06
Mobile	17.44	44.34	147.75	0.46	48.46	2.04	50.50	0.70	1.95	2.65		38,932.94		1.23		38,958.68
Total	**33.60**	**48.31**	**191.67**	**0.48**	**48.46**	**2.04**	**51.00**	**0.70**	**1.95**	**3.15**	**0.00**	**43,340.82**		**1.38**	**0.08**	**43,394.44**

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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Energy	0.35	3.11	1.96	0.02		0.00	0.24		0.00	0.24		3,859.26		0.07	0.07	3,882.75
Mobile	16.32	41.59	135.31	0.41	43.62	1.85	45.46	0.63	1.77	2.40		35,170.96		1.12		35,194.39
Total	**32.43**	**45.18**	**179.01**	**0.43**	**43.62**	**1.85**	**45.93**	**0.63**	**1.77**	**2.87**	**0.00**	**39,105.40**		**1.26**	**0.07**	**39,153.84**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Demolition - 2011

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					0.83	0.00	0.83	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.83**	**4.10**	**4.93**	**0.00**	**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.52	1.13	0.00	4.48	0.11	4.59	0.01	0.11	0.12		312.75		0.01		312.97
Vendor	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
Worker	0.11	0.12	1.34	0.00	0.23	0.01	0.24	0.01	0.01	0.02		191.33		0.01		191.58
Total	**0.33**	**2.64**	**2.47**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**504.08**		**0.02**		**504.55**

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.32**	**4.10**	**4.42**	**0.00**	**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.52	1.13	0.00	4.48	0.11	4.59	0.01	0.11	0.12		312.75		0.01		312.97
Vendor	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
Worker	0.11	0.12	1.34	0.00	0.23	0.01	0.24	0.01	0.01	0.02		191.33		0.01		191.58
Total	**0.33**	**2.64**	**2.47**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**504.08**		**0.02**		**504.55**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	16.32	41.59	135.31	0.41	43.62	1.85	45.46	0.63	1.77	2.40		35,170.96		1.12		35,194.39
Unmitigated	17.44	44.34	147.75	0.46	48.46	2.04	50.50	0.70	1.95	2.65		38,932.94		1.23		38,958.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,839.55	2,839.55	2839.55	9,457,333	8,511,600
General Light Industry	0.00	0.00	0.00		
General Office Building	136.80	136.80	136.80	436,869	393,182
Racquet Club	1,185.60	1,185.60	1185.60	3,114,590	2,803,131
Retirement Community	485.45	485.45	485.45	1,616,827	1,455,145
Total	4,647.40	4,647.40	4,647.40	14,625,620	13,163,058

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00

	Miles			Trip %		
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
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
Racquet Club	8.90	13.30	7.40	11.50	69.50	19.00
Retirement Community	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.35	3.11	1.96	0.02		0.00	0.24		0.00	0.24		3,859.26		0.07	0.07	3,882.75
NaturalGas Unmitigated	0.40	3.49	2.18	0.02		0.00	0.27		0.00	0.27		4,332.70		0.08	0.08	4,359.06
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	19697.1	0.21	1.82	0.77	0.01		0.00	0.15		0.00	0.15		2,317.30		0.04	0.04	2,331.41
General Light Industry	2371.34	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
General Office Building	120	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Racquet Club	9485.37	0.10	0.93	0.78	0.01		0.00	0.07		0.00	0.07		1,115.93		0.02	0.02	1,122.72
Retirement Community	5154.13	0.06	0.51	0.42	0.00		0.00	0.04		0.00	0.04		606.37		0.01	0.01	610.06
Total		**0.40**	**3.50**	**2.18**	**0.02**		**0.00**	**0.28**		**0.00**	**0.28**		**4,332.70**		**0.08**	**0.08**	**4,359.07**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	17.2261	0.19	1.59	0.68	0.01		0.00	0.13		0.00	0.13		2,026.60		0.04	0.04	2,038.94
General Light Industry	2.19867	0.02	0.22	0.18	0.00		0.00	0.02		0.00	0.02		258.67		0.00	0.00	260.24
General Office Building	0.102	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		12.00		0.00	0.00	12.07
Racquet Club	8.7947	0.09	0.86	0.72	0.01		0.00	0.07		0.00	0.07		1,034.67		0.02	0.02	1,040.97
Retirement Community	4.48224	0.05	0.44	0.37	0.00		0.00	0.03		0.00	0.03		527.32		0.01	0.01	530.53
Total		**0.35**	**3.12**	**1.96**	**0.02**		**0.00**	**0.25**		**0.00**	**0.25**		**3,859.26**		**0.07**	**0.07**	**3,882.75**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Unmitigated	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.95					0.00	0.00		0.00	0.00						0.00
Consumer Products	12.55					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	1.26	0.48	41.74	0.00		0.00	0.23		0.00	0.23		75.18		0.07		76.70
Total	**15.76**	**0.48**	**41.74**	**0.00**		**0.00**	**0.23**		**0.00**	**0.23**	**0.00**	**75.18**		**0.07**	**0.00**	**76.70**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.95					0.00	0.00		0.00	0.00						0.00
Consumer Products	12.55					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	1.26	0.48	41.74	0.00		0.00	0.23		0.00	0.23		75.18		0.07		76.70
Total	**15.76**	**0.48**	**41.74**	**0.00**		**0.00**	**0.23**		**0.00**	**0.23**	**0.00**	**75.18**		**0.07**	**0.00**	**76.70**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Waterman Gardens - Operational

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	12	1000sqft
General Light Industry	26	1000sqft
Racquet Club	104	1000sqft
Apartments Low Rise	427	Dwelling Unit
Retirement Community	73	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	32		

1.3 User Entered Comments

Project Characteristics -

Land Use - Admin center - 12,000 sqft on 0.5 acres.
Youth center - 26,000 sqft on 1 acre.
Community center - 104,000 sqft on 12.5 acres.
Residences - 427 units on 20.8 acres.
Senior residences - 73 units on 3.2 acres.

Vehicle Trips - Residential trip rates estimated at 6.65 trips per day per unit.
Total trip rate for community center estimated at 22.80 trips per day per ksf, with 50% being internal trips. Net rate therefore 11.4 trips per day per ksf.
Estimated zero trips for youth center.

Woodstoves - No woodstoves or fireplaces planned.

Energy Use - Energy Use - CalEEMod default values for Retirement Community (CalEEMod User's Guide, Version 2011.1, Appendix D [February 2011]).
Values are converted to a per square foot basis.

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					
2011	10.18	82.64	48.33	0.08	5.54	4.22	9.76	0.02	4.22	4.24	0.00	7,991.27	0.00	0.90	0.00	8,010.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2011	10.18	82.64	48.33	0.08	5.03	4.22	9.25	0.02	4.22	4.24	0.00	7,991.27	0.00	0.90	0.00	8,010.24
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Energy	0.40	3.49	2.18	0.02		0.00	0.27		0.00	0.27		4,332.70		0.08	0.08	4,359.06
Mobile	17.56	45.67	138.13	0.42	48.46	2.06	50.52	0.70	1.96	2.66		35,620.52		1.09		35,643.51
Total	**33.72**	**49.64**	**182.05**	**0.44**	**48.46**	**2.06**	**51.02**	**0.70**	**1.96**	**3.16**	**0.00**	**40,028.40**		**1.24**	**0.08**	**40,079.27**

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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Energy	0.35	3.11	1.96	0.02		0.00	0.24		0.00	0.24		3,859.26		0.07	0.07	3,882.75
Mobile	16.35	42.69	127.60	0.38	43.62	1.86	45.48	0.63	1.78	2.41		32,180.45		1.00		32,201.44
Total	**32.46**	**46.28**	**171.30**	**0.40**	**43.62**	**1.86**	**45.95**	**0.63**	**1.78**	**2.88**	**0.00**	**36,114.89**		**1.14**	**0.07**	**36,160.89**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Demolition - 2011

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					0.83	0.00	0.83	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10		7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.83**	**4.10**	**4.93**	**0.00**	**4.10**	**4.10**		**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.63	1.21	0.00	4.48	0.11	4.59	0.01	0.11	0.12		311.04		0.01		311.26
Vendor	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
Worker	0.12	0.13	1.18	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.41		0.01		169.64
Total	**0.34**	**2.76**	**2.39**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**480.45**		**0.02**		**480.90**

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					0.32	0.00	0.32	0.00	0.00	0.00						0.00
Off-Road	9.84	79.87	45.95	0.07		4.10	4.10		4.10	4.10	0.00	7,510.82		0.88		7,529.33
Total	**9.84**	**79.87**	**45.95**	**0.07**	**0.32**	**4.10**	**4.42**	**0.00**	**4.10**	**4.10**	**0.00**	**7,510.82**		**0.88**		**7,529.33**

3.2 Demolition - 2011

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	0.22	2.63	1.21	0.00	4.48	0.11	4.59	0.01	0.11	0.12		311.04		0.01		311.26
Vendor	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
Worker	0.12	0.13	1.18	0.00	0.23	0.01	0.24	0.01	0.01	0.02		169.41		0.01		169.64
Total	**0.34**	**2.76**	**2.39**	**0.00**	**4.71**	**0.12**	**4.83**	**0.02**	**0.12**	**0.14**		**480.45**		**0.02**		**480.90**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	16.35	42.69	127.60	0.38	43.62	1.86	45.48	0.63	1.78	2.41		32,180.45		1.00		32,201.44
Unmitigated	17.56	45.67	138.13	0.42	48.46	2.06	50.52	0.70	1.96	2.66		35,620.52		1.09		35,643.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,839.55	2,839.55	2839.55	9,457,333	8,511,600
General Light Industry	0.00	0.00	0.00		
General Office Building	136.80	136.80	136.80	436,869	393,182
Racquet Club	1,185.60	1,185.60	1185.60	3,114,590	2,803,131
Retirement Community	485.45	485.45	485.45	1,616,827	1,455,145
Total	4,647.40	4,647.40	4,647.40	14,625,620	13,163,058

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Low Rise	12.70	7.00	9.50	40.20	19.20	40.60
General Light Industry	8.90	13.30	7.40	59.00	28.00	13.00

	Miles			Trip %		
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
General Office Building	8.90	13.30	7.40	33.00	48.00	19.00
Racquet Club	8.90	13.30	7.40	11.50	69.50	19.00
Retirement Community	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.35	3.11	1.96	0.02		0.00	0.24		0.00	0.24		3,859.26		0.07	0.07	3,882.75
NaturalGas Unmitigated	0.40	3.49	2.18	0.02		0.00	0.27		0.00	0.27		4,332.70		0.08	0.08	4,359.06
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Low Rise	19697.1	0.21	1.82	0.77	0.01		0.00	0.15		0.00	0.15		2,317.30		0.04	0.04	2,331.41
General Light Industry	2371.34	0.03	0.23	0.20	0.00		0.00	0.02		0.00	0.02		278.98		0.01	0.01	280.68
General Office Building	120	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		14.12		0.00	0.00	14.20
Racquet Club	9485.37	0.10	0.93	0.78	0.01		0.00	0.07		0.00	0.07		1,115.93		0.02	0.02	1,122.72
Retirement Community	5154.13	0.06	0.51	0.42	0.00		0.00	0.04		0.00	0.04		606.37		0.01	0.01	610.06
Total		**0.40**	**3.50**	**2.18**	**0.02**		**0.00**	**0.28**		**0.00**	**0.28**		**4,332.70**		**0.08**	**0.08**	**4,359.07**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Apartments Low Rise	17.2261	0.19	1.59	0.68	0.01		0.00	0.13		0.00	0.13		2,026.60		0.04	0.04	2,038.94
General Light Industry	2.19867	0.02	0.22	0.18	0.00		0.00	0.02		0.00	0.02		258.67		0.00	0.00	260.24
General Office Building	0.102	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		12.00		0.00	0.00	12.07
Racquet Club	8.7947	0.09	0.86	0.72	0.01		0.00	0.07		0.00	0.07		1,034.67		0.02	0.02	1,040.97
Retirement Community	4.48224	0.05	0.44	0.37	0.00		0.00	0.03		0.00	0.03		527.32		0.01	0.01	530.53
Total		**0.35**	**3.12**	**1.96**	**0.02**		**0.00**	**0.25**		**0.00**	**0.25**		**3,859.26**		**0.07**	**0.07**	**3,882.75**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Unmitigated	15.76	0.48	41.74	0.00		0.00	0.23		0.00	0.23	0.00	75.18		0.07	0.00	76.70
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.95					0.00	0.00		0.00	0.00						0.00
Consumer Products	12.55					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	1.26	0.48	41.74	0.00		0.00	0.23		0.00	0.23		75.18		0.07		76.70
Total	**15.76**	**0.48**	**41.74**	**0.00**		**0.00**	**0.23**		**0.00**	**0.23**	**0.00**	**75.18**		**0.07**	**0.00**	**76.70**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.95					0.00	0.00		0.00	0.00						0.00
Consumer Products	12.55					0.00	0.00		0.00	0.00						0.00
Hearth	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
Landscaping	1.26	0.48	41.74	0.00		0.00	0.23		0.00	0.23		75.18		0.07		76.70
Total	**15.76**	**0.48**	**41.74**	**0.00**		**0.00**	**0.23**		**0.00**	**0.23**	**0.00**	**75.18**		**0.07**	**0.00**	**76.70**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

APPENDIX D

Carbon Monoxide Hotspots Modeling

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

Project Title:	Waterman Gardens Master Plan Project
Intersection:	Waterman Ave / Highland Ave
Analysis Condition:	Future (Year 2030) with Project
Nearest Air Monitoring Station measuring CO:	SRA 34 (Central San Bernardino Valley)
Background 1-hour CO Concentration (ppm):	4.0
Background 8-hour CO Concentration (ppm):	2.3
Persistence Factor:	0.7
Analysis Year:	2030

		Roadway Type	No. of Lanes	Approach/Departure Speed A.M.	Approach/Departure Speed P.M.
North-South Roadway:	Waterman Ave	AT GRADE	4	5	5
East-West Roadway:	Highland Ave	AT GRADE	4	5	5

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: San Bernardino

Assumes lowest mean wintertime temperature of 61 degrees F and 42% humidity.

	Average Speed (miles per hour)									
Year	5	8	11	14	17	20	23	26	29	32
2008	8.198	7.185	6.378	5.726	5.197	4.77	4.427	4.141	3.902	3.705
2009	7.383	6.482	5.762	5.181	4.707	4.325	4.018	3.761	3.546	3.367
2010	6.611	5.816	5.179	4.663	4.242	3.903	3.63	3.401	3.208	3.047
2011	5.99	5.28	4.708	4.244	3.865	3.56	3.315	3.108	2.934	2.787
2012	5.456	4.816	4.3	3.88	3.537	3.262	3.041	2.853	2.694	2.56
2013	4.971	4.394	3.928	3.548	3.238	2.989	2.789	2.62	2.475	2.353
2014	4.548	4.026	3.603	3.258	2.976	2.75	2.569	2.415	2.284	2.172
2015	4.17	3.696	3.31	2.996	2.739	2.534	2.37	2.23	2.11	2.007
2020	2.792	2.492	2.246	2.044	1.879	1.748	1.644	1.553	1.475	1.407
2025	2.115	1.892	1.708	1.557	1.434	1.339	1.263	1.197	1.139	1.088
2030	1.796	1.603	1.445	1.315	1.211	1.132	1.069	1.014	0.967	0.925
2035	1.643	1.461	1.311	1.189	1.093	1.02	0.965	0.916	0.874	0.837
2040	1.563	1.383	1.235	1.116	1.022	0.953	0.902	0.857	0.818	0.783

PEAK HOUR TURNING VOLUMES

A.M. Peak

	N				
		47	1,192	172	
W		<	v	>	E
95	^			^	47
533	>			<	594
273	v			v	170
		<	^	>	
		151	601	125	
	S				

P.M. Peak

	N				
		51	643	205	
W		<	v	>	E
154	^			^	168
876	>			<	909
224	v			v	179
		<	^	>	
		293	1,152	283	
	S				

Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,512	N-S Road	2,774
E-W Road	1,693	E-W Road	2,620
Primary Road =	N-S Road	Primary Road =	N-S Road

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations 0 Feet	25 Feet	50 Feet		Traffic Volume		Emission Factor		
A.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	2,512	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	1,693	*	1.80	÷	100,000
P.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	2,774	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	2,620	*	1.80	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
0 Feet from Roadway Edge	4.6	4.7	2.8
25 Feet from Roadway Edge	4.4	4.5	2.6
50 Feet from Roadway Edge	4.3	4.4	2.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

Project Title:	Waterman Gardens Master Plan Project
Intersection:	Waterman Ave / Baseline St
Analysis Condition:	Future (Year 2030) with Project
Nearest Air Monitoring Station measuring CO:	SRA 34 (Central San Bernardino Valley)
Background 1-hour CO Concentration (ppm):	4.0
Background 8-hour CO Concentration (ppm):	2.3
Persistence Factor:	0.7
Analysis Year:	2030

		Roadway Type	No. of Lanes	Approach/Departure Speed A.M.	Approach/Departure Speed P.M.
North-South Roadway:	Waterman Ave	AT GRADE	4	5	5
East-West Roadway:	Base Line St	AT GRADE	4	5	5

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: San Bernardino

Assumes lowest mean wintertime temperature of 61 degrees F and 42% humidity.

	Average Speed (miles per hour)									
Year	5	8	11	14	17	20	23	26	29	32
2008	8.198	7.185	6.378	5.726	5.197	4.77	4.427	4.141	3.902	3.705
2009	7.383	6.482	5.762	5.181	4.707	4.325	4.018	3.761	3.546	3.367
2010	6.611	5.816	5.179	4.663	4.242	3.903	3.63	3.401	3.208	3.047
2011	5.99	5.28	4.708	4.244	3.865	3.56	3.315	3.108	2.934	2.787
2012	5.456	4.816	4.3	3.88	3.537	3.262	3.041	2.853	2.694	2.56
2013	4.971	4.394	3.928	3.548	3.238	2.989	2.789	2.62	2.475	2.353
2014	4.548	4.026	3.603	3.258	2.976	2.75	2.569	2.415	2.284	2.172
2015	4.17	3.696	3.31	2.996	2.739	2.534	2.37	2.23	2.11	2.007
2020	2.792	2.492	2.246	2.044	1.879	1.748	1.644	1.553	1.475	1.407
2025	2.115	1.892	1.708	1.557	1.434	1.339	1.263	1.197	1.139	1.088
2030	1.796	1.603	1.445	1.315	1.211	1.132	1.069	1.014	0.967	0.925
2035	1.643	1.461	1.311	1.189	1.093	1.02	0.965	0.916	0.874	0.837
2040	1.563	1.383	1.235	1.116	1.022	0.953	0.902	0.857	0.818	0.783

PEAK HOUR TURNING VOLUMES

A.M. Peak

	N				
		144	1,186	82	
W		<	v	>	E
153	^			^	104
608	>			<	755
153	v			v	263
		<	^	>	
		123	615	169	
	S				

P.M. Peak

	N				
		182	977	107	
W		<	v	>	E
149	^			^	130
759	>			<	747
206	v			v	216
		<	^	>	
		223	1,102	275	
	S				

Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,509	N-S Road	2,999
E-W Road	1,981	E-W Road	2,266
Primary Road =	N-S Road	Primary Road =	N-S Road

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations 0 Feet	25 Feet	50 Feet		Traffic Volume		Emission Factor		
A.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	2,509	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	1,981	*	1.80	÷	100,000
P.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	2,999	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	2,266	*	1.80	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
0 Feet from Roadway Edge	4.7	4.8	2.8
25 Feet from Roadway Edge	4.4	4.5	2.6
50 Feet from Roadway Edge	4.3	4.4	2.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

Project Title:	Waterman Gardens Master Plan Project
Intersection:	Waterman Ave / 5th St
Analysis Condition:	Future (Year 2030) with Project
Nearest Air Monitoring Station measuring CO:	SRA 34 (Central San Bernardino Valley)
Background 1-hour CO Concentration (ppm):	4.0
Background 8-hour CO Concentration (ppm):	2.3
Persistence Factor:	0.7
Analysis Year:	2030

		Roadway Type	No. of Lanes	Approach/Departure Speed A.M.	Approach/Departure Speed P.M.
North-South Roadway:	Waterman Ave	AT GRADE	4	5	5
East-West Roadway:	5th St	AT GRADE	4	5	5

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: San Bernardino

Assumes lowest mean wintertime temperature of 61 degrees F and 42% humidity.

	Average Speed (miles per hour)									
Year	5	8	11	14	17	20	23	26	29	32
2008	8.198	7.185	6.378	5.726	5.197	4.77	4.427	4.141	3.902	3.705
2009	7.383	6.482	5.762	5.181	4.707	4.325	4.018	3.761	3.546	3.367
2010	6.611	5.816	5.179	4.663	4.242	3.903	3.63	3.401	3.208	3.047
2011	5.99	5.28	4.708	4.244	3.865	3.56	3.315	3.108	2.934	2.787
2012	5.456	4.816	4.3	3.88	3.537	3.262	3.041	2.853	2.694	2.56
2013	4.971	4.394	3.928	3.548	3.238	2.989	2.789	2.62	2.475	2.353
2014	4.548	4.026	3.603	3.258	2.976	2.75	2.569	2.415	2.284	2.172
2015	4.17	3.696	3.31	2.996	2.739	2.534	2.37	2.23	2.11	2.007
2020	2.792	2.492	2.246	2.044	1.879	1.748	1.644	1.553	1.475	1.407
2025	2.115	1.892	1.708	1.557	1.434	1.339	1.263	1.197	1.139	1.088
2030	1.796	1.603	1.445	1.315	1.211	1.132	1.069	1.014	0.967	0.925
2035	1.643	1.461	1.311	1.189	1.093	1.02	0.965	0.916	0.874	0.837
2040	1.563	1.383	1.235	1.116	1.022	0.953	0.902	0.857	0.818	0.783

PEAK HOUR TURNING VOLUMES

A.M. Peak

	N			
		167	1,450	33
W		<	v	>
137	^			^
224	>			<
196	v			v
		<	^	>
		124	956	84
	S			

				E
				49
				533
				119

P.M. Peak

	N			
		156	1,410	68
W		<	v	>
168	^			^
735	>			<
226	v			v
		<	^	>
		149	1,843	170
	S			

				E
				81
				258
				103

Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,929	N-S Road	3,901
E-W Road	1,381	E-W Road	1,692
Primary Road =	N-S Road	Primary Road =	N-S Road

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations 0 Feet	25 Feet	50 Feet		Traffic Volume		Emission Factor		
A.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	2,929	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	1,381	*	1.80	÷	100,000
P.M. Peak Hour									
N-S Road	11.9	7.0	5.4	*	3,901	*	1.80	÷	100,000
E-W Road	3.3	2.6	2.2	*	1,692	*	1.80	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
0 Feet from Roadway Edge	4.7	4.9	3.0
25 Feet from Roadway Edge	4.4	4.6	2.7
50 Feet from Roadway Edge	4.3	4.4	2.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

Project Title:	Waterman Gardens Master Plan Project
Intersection:	La Junita St / Base Line St
Analysis Condition:	Future (Year 2030) with Project
Nearest Air Monitoring Station measuring CO:	SRA 34 (Central San Bernardino Valley)
Background 1-hour CO Concentration (ppm):	4.0
Background 8-hour CO Concentration (ppm):	2.3
Persistence Factor:	0.7
Analysis Year:	2030

		Roadway Type	No. of Lanes	Approach/Departure Speed A.M.	Approach/Departure Speed P.M.
North-South Roadway:	La Junita St	AT GRADE	0	5	5
East-West Roadway:	Base Line St	AT GRADE	4	5	5

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: San Bernardino

Assumes lowest mean wintertime temperature of 61 degrees F and 42% humidity.

	Average Speed (miles per hour)									
Year	5	8	11	14	17	20	23	26	29	32
2008	8.198	7.185	6.378	5.726	5.197	4.77	4.427	4.141	3.902	3.705
2009	7.383	6.482	5.762	5.181	4.707	4.325	4.018	3.761	3.546	3.367
2010	6.611	5.816	5.179	4.663	4.242	3.903	3.63	3.401	3.208	3.047
2011	5.99	5.28	4.708	4.244	3.865	3.56	3.315	3.108	2.934	2.787
2012	5.456	4.816	4.3	3.88	3.537	3.262	3.041	2.853	2.694	2.56
2013	4.971	4.394	3.928	3.548	3.238	2.989	2.789	2.62	2.475	2.353
2014	4.548	4.026	3.603	3.258	2.976	2.75	2.569	2.415	2.284	2.172
2015	4.17	3.696	3.31	2.996	2.739	2.534	2.37	2.23	2.11	2.007
2020	2.792	2.492	2.246	2.044	1.879	1.748	1.644	1.553	1.475	1.407
2025	2.115	1.892	1.708	1.557	1.434	1.339	1.263	1.197	1.139	1.088
2030	1.796	1.603	1.445	1.315	1.211	1.132	1.069	1.014	0.967	0.925
2035	1.643	1.461	1.311	1.189	1.093	1.02	0.965	0.916	0.874	0.837
2040	1.563	1.383	1.235	1.116	1.022	0.953	0.902	0.857	0.818	0.783

PEAK HOUR TURNING VOLUMES

A.M. Peak

```
        N
                0       0       0
W       <       v       >               E
    0 ^                             ^   0
  792 >                             <   1,060
   30 v                             v   36
        <       ^       >
               18       0      31
        S
```

P.M. Peak

```
        N
                0       0       0
W       <       v       >               E
    0 ^                             ^   0
1,207 >                             <   1,085
   21 v                             v   23
        <       ^       >
               28       0      34
        S
```

Representative Traffic Volumes (Vehicles per Hour)

N-S Road	115	N-S Road	106
E-W Road	1,919	E-W Road	2,349
Primary Road =	E-W Road	Primary Road =	E-W Road

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations 0 Feet	25 Feet	50 Feet		Traffic Volume		Emission Factor		
A.M. Peak Hour									
N-S Road	0.0	0.0	0.0	*	115	*	1.80	÷	100,000
E-W Road	11.9	7.0	5.4	*	1,919	*	1.80	÷	100,000
P.M. Peak Hour									
N-S Road	0.0	0.0	0.0	*	106	*	1.80	÷	100,000
E-W Road	11.9	7.0	5.4	*	2,349	*	1.80	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
0 Feet from Roadway Edge	4.4	4.5	2.7
25 Feet from Roadway Edge	4.2	4.3	2.5
50 Feet from Roadway Edge	4.2	4.2	2.5