APPENDIX H

GREENHOUSE GAS EMISSIONS ASSESSMENT

Waterman Gardens Master Plan Project

Greenhouse Gas Assessment

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July 2011

SUMMARY

The greenhouse gas (GHG) emissions 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 available local, regional, and state guidance. 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 draft thresholds of significance developed by the South Coast Air Quality Management District (SCAQMD) Greenhouse Gas CEQA Significance Thresholds Stakeholder Working Group. As of the date of this report, the Working Group has made draft recommendations; however, the SCAQMD Governing Board has not formally adopted any threshold for residential and commercial projects. Thus, the Working Group draft recommendations represent the best available information with which to evaluate the project's significance with respect to GHG emissions and climate change.

Construction and operation of the proposed project would result in the emission of GHGs. The primary sources of GHG emissions that would be attributable to the proposed project include: construction equipment and vehicles; motor vehicles; natural gas combustion; electricity consumption; water consumption, wastewater generation, and solid waste generation. Based on the analysis, the project is estimated to result in net unmitigated emissions of 4,110 metric tons of carbon dioxide equivalents ($MTCO_2e$) per year. As a result, the project would be required to incorporate feasible mitigation measures. With the incorporation of mitigation measure **MM GHG-1**, the project would result in net emissions of 2,946 $MTCO_2e$ per year. The project would also incorporate applicable GHG reduction measures consistent with recommended state measure to reduce GHG emissions. Therefore, based on the results of the GHG emissions assessment, construction- and operation-related GHG emissions from the proposed project would result in a less than significant impact to GHG emissions and climate change.

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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.

This greenhouse gas (GHG) emissions assessment evaluates the potential climate change impacts associated with implementation of the proposed project. 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 and it has formed a Greenhouse Gas CEQA Significance Thresholds Stakeholder Working Group in order to provide guidance to local agencies on determining the significance of GHG emissions in CEQA documents. As of the date of this report, the Working Group has made draft recommendations; however, the SCAQMD Governing Board has not formally adopted any threshold for residential and commercial projects. Thus, the Working Group draft recommendations represent the best available information with which to evaluate the project's significance with respect to GHG emissions and climate change. Additional sources of information are relied upon as cited and discussed in this report.

2.0 ENVIRONMENTAL SETTING

2.1 Global Climate Change Background

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer).[1] Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHG and other gases to the atmosphere from volcanic eruptions); and
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

The natural process through which heat is retained in the troposphere[2] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a three-fold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation re-emitted by the Earth; and (3) GHGs in the atmosphere absorbing or trapping the long-wave radiation and re-emitting it back towards the Earth and into space. This third process is the focus of current climate change actions.

While water vapor and carbon dioxide (CO_2) are the most abundant GHG, other trace GHGs have a greater ability to absorb and re-radiate long-wave radiation. To gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-emit long-wave radiation over a specific time period. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The use of GWP allows GHG emissions to be reported using CO_2 as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). This essentially means that 1 metric ton of a GHG with a GWP of 10 has the same climate change impacts as 10 metric tons of CO_2.

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1 U.S. Environmental Protection Agency, "Glossary of Climate Change Terms," http://www.epa.gov /climatechange/glossary.html#Climate_change. 2008.

2 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

2.2 Effects of Climate Change

The primary effect of global climate change has been a rise in the average global tropospheric temperature of 0.2° Celsius per decade, determined from meteorological measurements world-wide between 1990 and 2005.[3] Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century.[4] Changes to the global climate system and ecosystems and to California could include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[5]
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[6]
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[7]
- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[8]
- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century;[9]
- Increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level;[10]

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3 Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

4 Ibid.

5 Ibid.

6 Ibid.

7 Ibid.

8 California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).

9 Ibid.

10 Ibid.

- Increasing pest infestation making California more susceptible to forest fires;[11] and
- Increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures.[12]

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*[13] as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a web site on climate change scenarios and impacts that would beneficial for local decision makers.[14] The website, known as Cal-Adapt, became operational in 2011.[15] According to the Cal-Adapt website, the project area could result in an average increase in temperature of 6 to 8 percent (about 3.6 to 5.4° Fahrenheit) by 2070-2090, compared to the baseline 1961-1990 time period. According to the Cal-Adapt website, this represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and is meant to illustrate how the climate may change based on a variety of different potential social and economic factors.

2.3 Greenhouse Gases

State law defines GHGs to include the following compounds:[16]

- **Carbon Dioxide (CO_2).** CO_2 is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWPs of other GHGs.
- **Methane (CH_4).** Methane is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of methane is 21.

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11 Ibid.

12 Ibid.

13 California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, (2009).

14 Ibid., Page 9.

15 The Cal-Adapt website address is: http://cal-adapt.org.

16 All Global Warming Potentials are given as 100-year values. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge (UK): Cambridge University Press, 1996.

- **Nitrous Oxide (N_2O).** Is produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- **Hydrofluorocarbons (HFCs).** HFCs typically are used as refrigerants in both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam-blowing is growing particularly as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23.

- **Perfluorocarbons (PFCs).** Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[17] The GWPs of PFCs range from 5,700 to 11,900.

- **Sulfur Hexafluoride (SF_6).** Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride has a GWP of 23,900. However, it is not prevalent in the atmosphere (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm] of CO_2).[18]

The primary GHGs of concern relative to the proposed project are CO_2, CH_4, and N_2O. These three GHGs are generally emitted from combustion activities. The other GHGs listed above are related to specific industrial uses and not anticipated to be emitted in measurable or substantial quantities by the proposed project.

2.4 Contributions to Greenhouse Gas Emissions

2.4.1 Global

Worldwide anthropogenic (man-made) GHG emissions are tracked for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions for Annex I nations are available through 2007. Man-made GHG emissions for Non-Annex I nations are available through 2005. The sum of these emissions totaled approximately 44,272 million metric tons of CO_2 equivalents ($MMTCO_2e$).[19] It should be noted that global emissions inventory data are not all from the

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17 Energy Information Administration, "Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride," http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html. n.d.

18 U.S. Environmental Protection Agency, "High GWP Gases and Climate Change," http://www.epa.gov/highgwp/scientific.html#sf6. n.d.

19 The CO_2 equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2e$)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2e$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO_2.

same year and may vary depending on the source of the emissions inventory data.[20] The top five countries and the European Union accounted for approximately 57 percent of the total global GHG emissions according to the most recently available data (See **Table 1, Top Five GHG Producer Countries and the European Union [Annual]**). The GHG emissions in more recent years may differ from the inventories presented in **Table 1**; however, the data is representative of currently available global inventory data.

Table 1
Top Five GHG Producer Countries and the European Union (Annual)

Emitting Countries	GHG Emissions ($MMTCO_2e$)
China	7,264
United States	7,249
European Union (EU), 27 Member States	5,362
Russian Federation	2,197
India	1,870
Japan	1,407
Total	**25,349**

Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2011. Excludes emissions and removals from land use, land-use change and forestry (LULUCF).
Note: Emissions for Annex I nations are based on 2007 data. Emissions for Non-Annex I nations (e.g., China, India) are based on 2005 data.

2.4.2 *United States*

As noted in **Table 1**, the United States was the number two producer of global GHG emissions. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 83 percent of total GHG emissions.[21] Carbon dioxide from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 95 percent of U.S. CO_2 emissions in 2009.[22]

20 The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2007 data, the data for the most recent year were used.

21 U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2009*, (2011) ES-6.

22 Ibid, ES-7.

2.4.3 *State of California*

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2008 GHG inventory data (i.e., the latest year for which data are available), California emitted 474 $MMTCO_2e$ ***including*** emissions resulting from imported electrical power in 2008.[23] Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 $MMTCO_2e$ ***excluding*** emissions related to imported power.[24]

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 2, GHG Emissions in California**, provides a summary of GHG emissions reported in California in 1990 and 2008 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

Table 2
GHG Emissions in California

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2008 ($MMTCO_2e$)	Percent of Total
ENERGY	**386.41**	**89.2%**	**413.80**	**86.6%**
Energy Industries	157.33	36.3%	171.23	35.8%
Manufacturing Industries & Construction	24.24	5.6%	16.67	3.5%
Transport	150.02	34.6%	173.94	36.4%
Other (Residential/Commercial/Institutional)	48.19	11.1%	46.59	9.8%
Non-Specified	1.38	0.3%	0.00	0.0%
Fugitive Emissions from Oil & Natural Gas	2.94	0.7%	3.28	0.7%
Fugitive Emissions from Other Energy Production	2.31	0.5%	2.09	0.4%

23 California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2011.

24 Ibid.

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2008 ($MMTCO_2e$)	Percent of Total
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**4.2%**	**30.11**	**6.3%**
Mineral Industry	4.85	1.1%	5.35	1.1%
Chemical Industry	2.34	0.5%	0.06	0.0%
Non-Energy Products from Fuels & Solvent Use	2.29	0.5%	1.97	0.4%
Electronics Industry	0.59	0.1%	0.80	0.2%
Substitutes for Ozone Depleting Substances	0.04	0.0%	13.89	2.9%
Other Product Manufacture and Use	3.18	0.7%	1.66	0.3%
Other	5.05	1.2%	6.39	1.3%
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**4.4%**	**24.42**	**5.1%**
Livestock	11.67	2.7%	16.28	3.4%
Land	0.19	0.0%	0.19	0.0%
Aggregate Sources & Non-CO_2 Sources on Land	7.26	1.7%	7.95	1.7%
WASTE	**9.42**	**2.2%**	**9.41**	**2.0%**
Solid Waste Disposal	6.26	1.4%	6.71	1.4%
Wastewater Treatment & Discharge	3.17	0.7%	2.70	0.6%
EMISSIONS SUMMARY				
Gross California Emissions	433.29		477.74	
Sinks from Forests and Rangelands	-6.69		-3.98	
Net California Emissions	426.60		473.76	

Sources:

[1] *California Air Resources Board, "California Greenhouse Gas 1990-2004 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/archive/archive.htm. 2011.*

[2] *California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2011.*

Between 1990 and 2008, the population of California grew by approximately 8.1 million (from 29.8 to 37.9 million).[25] This represents an increase of approximately 27.2 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $788 billon in 1990 to $1.8 trillion in 2008 representing an increase of approximately 128 percent (over twice the 1990 gross state product).[26] Despite the population and economic growth, California's net GHG emissions only grew by

25 US Census Bureau, "Data Finders," http://www.census.gov/. 2009; California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-1008, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2009/. 2010.

26 California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. 2010. Amounts are based on current dollars as of the data of the report (June 2, 2009).

approximately 11 percent. The CEC attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.[27]

2.5 Global Ambient CO_2 Concentrations

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide, methane, and nitrous oxide from before the start of the industrialization, around 1750, to over 650,000 years ago. For that period, it was found that carbon dioxide concentrations ranged from 180 ppm to 300 ppm. For the period from around 1750 to the present, global carbon dioxide concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.[28] Recent values continue this upward trend. Global methane and nitrous oxide concentrations show similar increases for the same period (see **Table 3, Comparison of Global Pre-Industrial and Current GHG Concentrations**).

Table 3
Comparison of Global Pre-Industrial and Current GHG Concentrations

Greenhouse Gas	Natural Range for Last 650,000 Years[1] (ppm)	Year 1750 Concentrations (Early Industrial Period)[1] (ppm)	Year 2005 Concentrations[1] (ppm)	Year 2010 Concentrations[2,3] (ppm)
Carbon Dioxide (CO_2)	180 to 300	280	379	390
Methane (CH_4)	0.320 to 0.790	0.715	1.774	1.870 / 1.745
Nitrous Oxide (N_2O)	0.180 to 0.260	0.270	0.319	0.323 / 0.322

Sources:
[1] *Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, (2007) 3, 100.*
[2] *Dr. Pieter Tans, National Oceanic and Atmospheric Administration (NOAA)/Earth System Research Laboratory (ESRL), "Trends in Atmospheric Carbon Dioxide," http://www.esrl.noaa.gov/gmd/ccgg/trends. 2011.*
[3] *Carbon Dioxide Information Analysis Center, "Recent Greenhouse Gas Concentrations," http://cdiac.ornl.gov/pns/current_ghg.html. 2011. The first value for CH_4 and N_2O represents Mace Head, Ireland, a mid-latitude Northern-Hemisphere site, and the second value represents Cape Grim, Tasmania, a mid-latitude Southern-Hemisphere site.*

27 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2006).

28 Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, (2007) 3, 100.

3.0 REGULATORY SETTING

3.1 Federal

The U.S. Environmental Protection Agency (EPA) adopted a mandatory GHG reporting rule in September 2009. The rule would require suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the U.S. EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers began reporting GHG emissions for model year 2011.

On September 15, 2009, the U.S. EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[29] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[30] The final standards were adopted by the U.S. EPA and DOT on April 1, 2010.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

While these findings do not impose additional requirements on industry or other entities, this action is a prerequisite to finalizing the U.S. EPA's proposed GHG emissions standards for light-duty vehicles,

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29 U.S. Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

30 U.S. EPA, "EPA and NHTSA Propose Historic Nation Program," 2009.

which were jointly proposed by the U.S. EPA and the NHTSA. On April 1, 2010, the U.S. EPA and NHTSA issued final rules requiring that by the 2016 model-year, manufacturers must achieve a combined average vehicle emission level of 250 grams CO_2 per mile, which is equivalent to 35.5 miles per gallon as measured by U.S. EPA standards. These agencies are currently in the process of developing more stringent vehicle emissions standards for the 2017-2025 model years.

3.2 State

3.2.1 Title 24 Building Standards Code

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions were adopted in 2008 and became effective on January 1, 2010.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: 1) Planning and design; 2) Energy efficiency; 3) Water efficiency and conservation; 4) Material conservation and resource efficiency; and 5) Environmental air quality."[31] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released the *2010 Green Building Standards Code* on its website.[32] Part 11 of the Title 24 Building Standards Code became effective on January 1, 2011. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

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31 California Building Standards Commission, 2008 California Green Building Standards Code, (2009) 3.

32 California Building Standards Commission, "CALGreen," http://www.bsc.ca.gov/CALGreen/default.htm. 2010.

3.2.2 Assembly Bill 1493

In response to the transportation sector's contribution of more than half of California's CO_2 emissions, Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 requires CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation. CARB adopted the standards in September 2004. The new standards would phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22 percent in greenhouse gas emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30 percent.

Before these regulations could go into effect, the U.S. EPA had to grant California a waiver under the federal CAA, which ordinarily preempts state regulation of motor vehicle emission standards. On June 30, 2009, the U.S. EPA formally approved California's waiver request. On September 15, 2009, the U.S. EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[33] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[34] These standards were formally adopted by the U.S. EPA and DOT on April 1, 2010. In light of the federal U.S. EPA and NHTSA standards, California—and states adopting California emissions standards—have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the two standards is similar, although the national standard ramps up slightly more slowly than required under the California standard. The Pavley standards require additional reductions in CO_2 emissions beyond 2016 (referred to as Phase II standards). The Phase II standards are currently in development for the 2017-2025 model years.

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33 U.S. Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

34 U.S. EPA, "EPA and NHTSA Propose Historic Nation Program," 2009.

3.2.3 Executive Order S-3-05 and the Climate Action Team

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The Secretary of California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the CEC, and the President of the Public Utilities Commission. Representatives from these agencies comprise the Climate Action Team.

3.2.4 Renewable Portfolio Standard

In 2002, Senate Bill 1078 (SB 1078, Sher) established California's Renewable Portfolio Standard (RPS) which requires investor-owned utilities, such as Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric, to increase energy production from renewable source 1 percent per year up to a minimum of 20 percent of total energy generation by 2017. SB 107 (Simitian), signed by the Governor on September 26, 2008, accelerated the Renewable Portfolio Standard by requiring investor-owned utilities to meet the 20 percent target by 2010.

On September 15, 2009, the Governor issued Executive Order S-21-0911 requiring CARB, under its AB 32 authority, to adopt regulations to meet a 33 percent RPS target by 2020. The CARB regulations would use a phased-in or tiered requirement to increase the amount of electricity from eligible renewable sources over an eight year period beginning in 2012. CARB adopted the regulation in September 2010.

In March 2011, the Legislature passed SB X1-2, which was signed into law by the Governor. SB X1-2 requires utilities to procure renewable energy products equal to 33 percent of retail sales by December 31, 2020 and also established interim targets: 20 percent by December 31, 2013 and 25 percent by December 31, 2016. SB X1-2 also includes publicly-owned utilities in California.

3.2.5 Assembly Bill 32

In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 requires the State to undertake several actions – the major requirements are discussed below:

3.2.5.1 CARB Early Action Measures

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early action greenhouse gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. CARB has adopted regulations for all early action measures. The original three adopted early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include:

- A low-carbon fuel standard to reduce the "carbon intensity" of California fuels;
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants; and
- Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early action regulations adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early action GHG reduction measures," include:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- Reduction of perfluorocarbons from the semiconductor industry;
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- Require that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- Restriction on the use of sulfur hexafluoride (SF_6) from non-electricity sectors if viable alternatives are available.

3.2.5.2 State of California 1990 Greenhouse Gas Inventory and 2020 Limit

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_2e$. The inventory revealed that in 1990 transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide, followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7

percent; agriculture, 5 percent; commercial uses, 3 percent; and forestry emissions (excluding sinks) less than 1 percent. These figures represent the 1990 values. AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

3.2.5.3 CARB Mandatory Reporting Requirements

In addition to the 1990 emissions inventory, CARB also adopted regulations requiring the mandatory reporting of GHG emissions for large facilities on December 6, 2007. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of greenhouse gas emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of carbon dioxide each year from on-site stationary combustion sources. Transportation sources, which account for 38 percent of California's total greenhouse gas emissions as of the 2002-2004 GHG inventory conducted by CARB,[35] are not covered by these regulations but will continue to be tracked through existing means. Affected facilities began tracking their emissions in 2008, and reported them beginning in 2009, with a phase-in process to allow facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 could be based on best available emission data. Beginning in 2010, however, emissions reporting requirements became more rigorous and are subject to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

3.2.5.4 AB 32 Climate Change Scoping Plan

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. CARB released the *Climate Change Scoping Plan* in October 2008, which contained an outline of the proposed State strategies to achieve the 2020 GHG emission limits. The CARB Governing Board approved the *Climate Change Scoping Plan* on December 11, 2008. The *Climate Change Scoping Plan* indicates how emissions reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The *Climate Change Scoping Plan* identifies 18 recommended strategies the state should implement to achieve AB 32. As of October 2010, CARB has identified ongoing programs and has adopted regulations for 29 individual measures to reduce GHG emissions in

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35 California Air Resources Board, "Greenhouse Gas Inventory Data – 2020 Forecast," http://www.arb.ca.gov/cc/inventory/data/forecast.htm. 2009.

accordance with the *Climate Change Scoping Plan* strategies. CARB will continue to draft additional rule language and conduct public workshops and rulemaking procedures through 2011 and is scheduled to finalize regulations by January 1, 2012.

Key elements of the *Climate Change Scoping Plan* include the following recommendations:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

Under the *Climate Change Scoping Plan*, approximately 85 percent of the State's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. The emissions cap incorporates a margin of safety whereby the 2020 emissions limit will still be achieved even in the event that uncapped sectors do not fully meet their anticipated emission reductions. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reductions from the cap-and-trade program will account for a significant portion of the reductions required by AB 32.

3.2.6 Executive Order S-1-07 (Low Carbon Fuel Standard)

On January 18, 2007, California set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2-equivalent grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The LCFS will apply to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using

the most economically feasible methods. CARB identified the LCSF as an early action item under AB 32 and the final regulation was adopted on April 23, 2009.

3.2.7 Senate Bill 97 (CEQA Guidelines)

In August 2007 the legislature enacted SB 97 (Dutton), which directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of greenhouse gas emissions. A number of actions have taken place under SB 97, which are discussed below:

3.2.7.1 OPR Climate Change Technical Advisory

On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents.[36] The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a less than significant level. The advisory did not recommend a specific threshold of significance.

3.2.7.2 CEQA Guideline Amendments

In its work to formulate CEQA Guideline Amendments for GHG emissions, OPR submitted the *Proposed Draft CEQA Guideline Amendments for Greenhouse Gas Emissions* to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency conducted formal rulemaking procedures and adopted the final CEQA Guideline Amendments on December 30, 2009.

3.2.8 Senate Bill 375

SB 375 requires CARB, working in consultation with the metropolitan planning organizations (MPOs), to set regional greenhouse gas reduction targets for the automobile and light truck sector for 2020 and 2035. The target must then be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

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36 Office of Planning and Research, *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, (2008).

On August 9, 2010, CARB staff issued the *Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant To Senate Bill 375*.[37] CARB staff proposed draft per capita reduction targets for the four largest MPOs (Bay Area, Sacramento, Southern California, and San Diego) of 7 to 8 percent for 2020 and reduction targets between 13 to 16 percent for 2035. For the Southern California Association of Governments (SCAG), which is the MPO for the region in which the proposed project is located, CARB established a draft target of 8 percent for 2020 and 13 percent for 2035. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations. CARB adopted the final targets (the same targets as the proposed draft targets) on September 23, 2010.

4.0 METHODOLOGY

The proposed project is evaluated in this EIR for potential impacts related to GHG emissions and climate change and utilized approved emissions models and guidelines as tools to create the analytical basis for the assessment. OPR in its Climate Change Technical Advisory recommended that GHG emissions from project-related traffic, energy consumption, water usage, and construction activities, should be identified and estimated, to the extent that data is available to calculate such emissions. In addition, CARB believes that indirect energy usage provides a more complete picture of the emissions footprint of a facility. According to CARB, "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility…"[38] For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements, and this analysis does so.

The data sources and tools used to evaluate the GHG impacts associated with construction and operation of the proposed project include the California Emissions Estimator Model (CalEEMod)[39], which 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 CARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. CalEEMod also

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37 California Air Resources Board (CARB), *Staff Report: Proposed Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*, (2010).

38 California Air Resources Board, *Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32)*, (2007).

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

utilizes data from the CEC, IPCC, CARB, U.S. EPA and CAPCOA. 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 an estimated construction schedule starting in 2013 and lasting through 2022. The number and types of construction equipment were also based on information supplied by the project applicant. Vendor trips (e.g., transport of building materials) and worker trips were based on default values provided in the CalEEMod model. Additional sources were consulted for this analysis as referenced. Emission calculations conducted for the proposed project are contained in **Appendix A**.

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:

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

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 first Appendix G checklist question may be evaluated by directly calculating GHG emissions from the proposed project. The SCAQMD Working Group has released draft recommendations for screening levels of GHG emissions. According to the draft, mixed-use or all land use projects that do not exceed a screening threshold of 3,000 $MTCO_2e$ per year would be considered to result in a less than significant impact. If a project exceeds these screening thresholds, the Working Group's draft documents recommend that projects reduce their emissions via project design features and mitigation measures. Projects may optionally demonstrate GHG reductions from a base case scenario, which includes any applicable land use sector reductions from AB 32. While SCAQMD has not formally adopted these thresholds, the Working Group draft recommendations represent the best available information with which to evaluate the project's significance with respect to GHG emissions.

The second Appendix G checklist question may be evaluated by demonstrating compliance with plans, policies, or regulations adopted by local governments to curb GHG emissions. According to the Natural Resources Agency:

> *Provided that such plans contain specific requirements with respect to resources that are within the agency's jurisdiction to avoid or substantially lessen the agency's contributions to GHG emissions, both from its own projects and from private projects it has approved or will approve, such plans may be appropriately relied on in a cumulative impacts analysis.*[40]

The State of California, through its Governor and Legislature, has established a comprehensive framework for the substantial reduction of GHG emissions. This will occur primarily through the implementation of AB 32 and Executive Order S-3-05, which addresses the reduction of GHG emissions on a statewide cumulative basis. Because the lead agency has not yet formally adopted a GHG reduction plan, the project will also be evaluated with respect to consistency with general statewide strategies to reduce GHG emissions.

6.0 IMPACT ANALYSIS

Threshold: **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment**

Construction GHG Emissions

The proposed project would result in short-term emissions of GHGs during construction. These emissions, primarily CO_2, CH_4, and N_2O, are the result of fuel combustion by construction equipment and motor vehicles. The other primary GHGs (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are typically associated with specific industrial sources and are not expected to be emitted by the project. The emissions of CO_2, CH_4, and N_2O were estimated using CalEEMod.

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

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40 Natural Resources Agency, *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*, (2009) 15.

based on factors provided in the CalEEMod model. The majority of the construction equipment and activities are assumed to operate during the workday between 6 and 8 hours. Construction subphases include grading, pavement and asphalt installation, architectural coating, and construction of the buildings. **Table 4, Estimated Construction GHG Emissions**, lists the estimated GHG emissions associated with construction of the proposed project.

Unlike federally- and state-regulated criteria pollutants, which predominantly affect local and regional air quality, GHGs tend to remain in the atmosphere for longer periods of time and have global impacts. As previously discussed, the current recommended methodology for evaluating the global warming potential of GHGs is to estimate the climate change impacts of GHGs using the warming potential of CO_2 over a 100-year period as a baseline. Although GHGs are generated during construction and are accordingly considered one-time emissions, it is important to include construction-related GHG emissions when assessing all of the long-term GHG emissions associated with a project. Therefore, current CEQA practice is to annualize construction-related GHG emissions over a project's lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. A project lifetime has generally been defined as 30 years. In accordance with this methodology, the estimated project's construction GHG emissions have been annualized over a 30-year period and are included in the annualized operational GHG emissions discussed below.

Operational GHG Emissions

The proposed project would become operational in phases as each construction phase is completed, but would commence full operation in late 2022. At full buildout, the project would result in direct annual emissions of GHGs during operation. These emissions, primarily CO_2, CH_4, and N_2O, are the result of fuel combustion from building heating systems and motor vehicles. Building and motor vehicle air conditioning systems may use HFCs (and HCFCs and CFCs to the extent that they have not been completely phased out at later dates); however, these emissions are not quantified since they would only occur through accidental leaks. It is not possible to estimate the frequency of accidental leaks without some level of speculation. It should be noted that CARB is in the process of adopting regulations that would reduce emissions of these refrigerants from stationary refrigeration and air-conditioning systems by requiring persons subject to the rule to reclaim, recover, or recycle refrigerant and to properly repair or replace faulty refrigeration and air conditioning equipment.[41]

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41 California Air Resources Board, "Stationary Equipment Refrigerant Management Program," http://www.arb.ca.gov/cc/reftrack/reftrack.htm. 2011. This regulation is an early action measure under AB 32.

Table 4
Estimated Construction Greenhouse Gas Emissions

GHG Emissions Source	Emissions (Metric Tons CO_2e/year)
2013 Construction Emissions	716.17
2014 Construction Emissions	591.79
2015 Construction Emissions	919.16
2016 Construction Emissions	855.44
2017 Construction Emissions	669.90
2018 Construction Emissions	888.80
2019 Construction Emissions	896.97
2020 Construction Emissions	787.10
2021 Construction Emissions	799.24
2022 Construction Emissions	504.56
Total Construction Emissions	**7,629.13**
Annualized over Project Lifetime	**254.30**

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix A**.*
Totals in table may not appear to add exactly due to rounding.

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), and the operation of landscape maintenance equipment. Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

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 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 fully 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 and gasoline (for landscaping equipment) contained in the CalEEMod

model. Trip generation rates provided in the traffic report for the project were used to estimate the mobile source emissions.[42] 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.The proposed project would also result in indirect GHG emissions due to the electricity demand, water consumption, and waste generation. The emission factor for CO_2 due to electrical demand from Southern California Edison, the electrical utility serving the proposed project, was selected in the CalEEMod model. Emission factors for CO_2 are based on CARB's Local Government Operations Protocol.[43] Emission factors for CH_4 and N_2O are based on U.S. EPA values.[44] The cited factors in the CARB report are based on data collected by the California Climate Action Registry. The emission factors take into account the current mix of energy sources used to generate electricity and the relative carbon intensities of these sources, and includes natural gas, coal, nuclear, large hydroelectric, and other renewable sources of energy.

Electricity consumption was based on default data found in CalEEMod for the respective land use types. In addition to electrical demand, the project would also result in indirect GHG emissions due to water consumption, wastewater treatment, and solid waste generation. CalEEMod default values were used for consumption of water and the generation of waste as well as the emissions resulting from these activities. GHG emissions from water consumption are due to the electricity needed to convey, treat, and distribute water. The annual electrical demand factors for potable water were obtained from the CEC.[45] GHG emissions from wastewater are due to the electricity needed to treat wastewater and the treatment process itself, which primarily releases CH_4 into the atmosphere. GHG emission factors for wastewater treatment were obtained from the U.S. EPA.[46] GHG emissions from solid waste generation are due to the decomposition of organic material, which releases CH_4 into the atmosphere. The GHG emission factor for solid waste generation was based on IPCC methods for quantifying GHG emissions from solid waste and waste disposal rates were based on Calrecycle data.[47]

The annual GHG emissions associated with the operation of the proposed project are provided below in **Table 5, Estimated Operational Greenhouse Gas Emissions**. Direct and indirect emissions operational

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

43 California Air Resources Board, *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, Version 1.1, (2010) 208.

44 U.S. Environmental Protection Agency, "E-Grid," http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html. nd.

45 California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report* (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.

46 U.S. Environmental Protection Agency, *Compilation of Air Pollutant Emission Factors, AP-42,* Fifth Edition, Volume I, Chapter 4.3.5, (1998).

47 IPCC, *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. 2006.

associated with the proposed project are compared with the SCAQMD's threshold of significance for mixed-use and all land use projects, which is 3,000 $MTCO_2e$ per year. As shown in **Table 5**, the proposed project would result in a significant impact with respect to GHG emissions.

Table 5
Estimated Operational Greenhouse Gas Emissions

Operational GHG Emissions from Area, and Mobile and Indirect Sources	GHG Emissions ($MTCO_2e$/Year)
Proposed Project	
Construction (Annualized) Emissions	254
Operational (Mobile) Sources	6,046
Area and Natural Gas Sources	13
Electrical Consumption	1,845
Solid Waste and Wastewater Generation	390
Water Supply	876
Total Proposed	**9,424**
Existing	
Operational (Mobile) Sources	4,402
Area and Natural Gas Sources	190
Electrical Consumption	558
Solid Waste and Wastewater Generation	53
Water Supply	111
Total Existing	**5,314**
Total Net Emissions	**4,110**
SCAQMD Threshold	**3,000**
Exceed Threshold?	**YES**

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix A.***

Level of Significance before Mitigation Measures: Significant impact.

Mitigation Measures: The proposed project will incorporate a number of measures and features intended to reduce both direct and indirect GHG emissions.

MM GHG-1 The project shall comply with and incorporate the following measures:

- Exceed the Title 24 energy use standards for green buildings by 15 percent;
- Use energy-efficient LED lights for outdoor lighting;

- Install low-flow faucets and toilets;
- Provide active stormwater management for reuse in landscape irrigation;
- Install water-efficient landscaping;
- Include a recycling center on-site;
- Enhance street and walkway design for improved pedestrian use and connection to public transit;
- Install light-colored roofs and walkways as well as shade trees to reduce heat island effects.

The annual GHG emissions associated with the operation of the proposed project after mitigation are provided below in **Table 6, Mitigated Operational Greenhouse Gas Emissions**. Direct and indirect mitigated operational emissions associated with the proposed project are compared with the SCAQMD's threshold of significance for mixed-use and all land use projects, which is 3,000 $MTCO_2e$ per year. As shown in **Table 6**, the proposed project would result in a less than significant impact after mitigation.

Table 6
Mitigated Operational Greenhouse Gas Emissions

Operational GHG Emissions from Area, and Mobile and Indirect Sources	GHG Emissions ($MTCO_2e$/Year)
Proposed Project	
Construction (Annualized) Emissions	254
Operational (Mobile) Sources	5,358
Area and Natural Gas Sources	13
Electrical Consumption	1,723
Solid Waste and Wastewater Generation	195
Water Supply	717
Total Proposed	**8,260**
Total Existing	**5,314**
Total Net Emissions	**2,946**
SCAQMD Threshold	**3,000**
Exceed Threshold?	**NO**

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix A.***

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

Threshold: **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases**

AB 32 is the State of California's primary GHG emissions regulation, as previously discussed. The SCAQMD GHG significance threshold was designed to ensure compliance with AB 32 emissions reductions requirements in the South Coast. Therefore if a proposed project emits below the draft significance threshold it can be assumed to comply with AB 32 within the SCAQMD jurisdiction. As the project would emit net emissions less than 3,000 $MTCO_2e$ of GHG per year, the proposed project would not conflict with the state's ability to achieve the reduction targets under AB 32.

Nonetheless, the proposed project would incorporate GHG control measures that would reduce the project's GHG emissions beyond regulatory requirements. The proposed project would however incorporate required and feasible GHG control measures, and would not hinder, disrupt or delay the implementation of any such control measures. For example, the proposed project would exceed the Title 24 energy use standards for green buildings by 15 percent, would install water efficient appliances and energy efficient lighting, and design the project for improved pedestrian use and connection to public transit. The project would also use light-colored roofs and walkways and plant shade trees to reduce the heat island effect and adapt to a warmer climate.. Therefore, the proposed project would not conflict with the State's ability to achieve GHG reductions pursuant to AB 32 and result in a less than significant impact on climate change.

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

Based on climate change guidance from various State agencies, this assessment provides estimated GHG emissions due to construction and operation of the proposed project. The emissions for construction, mobile sources, area sources, natural gas combustion, electricity demand, water demand, wastewater generation, and solid waste generation were estimated using site-specific factors or other default factors provided by State and federal agencies. Based on the analysis, the project is estimated to result in net emissions of 2,946 $MTCO_2e$ per year after mitigation.

The emissions associated with the proposed project represent a conservative assessment of the actual GHG emissions that would result from development of the proposed project. The construction emissions

were based on the assumption that equipment would operate continuously throughout an 8-hour work-day. In reality, construction equipment tends to operate cyclically for only a portion of the work day. As shown in **Table 6**, GHG emissions from motor vehicles represent well over half of the total emissions associated with the operation of the proposed project. Several regulatory actions have taken place at the federal and state level that would reduce GHG emissions from motor vehicles during future years. Model year 2012 through 2016 vehicles shall meet increasingly more stringent fuel economy and GHG emission standards. By 2016, passenger vehicles and light-duty trucks are expected to achieve a Corporate Average Fuel Economy (CAFE) standard of 35.5 miles per gallon and a CO_2 emission standard of 250 grams per mile. This represents an approximately 30 percent reduction in GHG emissions.

The proposed project would also be required to incorporate several GHG reduction measures. These measures would reduce energy and water consumption, thus ensuring that the project would not hinder efforts to achieve GHG emissions reductions required under AB 32. The proposed project would result in a less than significant impact on climate change.

APPENDIX A

Project Construction Greenhouse Gas Emissions Calculations

Waterman Gardens - Construction Phase 1

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.88	6.82	4.15	0.01	0.40	0.35	0.74	0.12	0.35	0.46	0.00	714.68	714.68	0.07	0.00	716.17
2014	0.68	4.55	3.57	0.01	0.10	0.28	0.38	0.00	0.28	0.28	0.00	590.65	590.65	0.05	0.00	591.79
2015	1.47	1.73	1.38	0.00	0.03	0.12	0.15	0.00	0.12	0.12	0.00	214.14	214.14	0.02	0.00	214.60
Total	**3.03**	**13.10**	**9.10**	**0.02**	**0.53**	**0.75**	**1.27**	**0.12**	**0.75**	**0.86**	**0.00**	**1,519.47**	**1,519.47**	**0.14**	**0.00**	**1,522.56**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.61	3.81	4.28	0.01	0.26	0.27	0.53	0.05	0.27	0.32	0.00	714.68	714.68	0.07	0.00	716.17
2014	0.57	3.37	3.85	0.01	0.10	0.26	0.36	0.00	0.26	0.27	0.00	590.65	590.65	0.05	0.00	591.79
2015	1.41	1.21	1.42	0.00	0.03	0.10	0.13	0.00	0.10	0.10	0.00	214.14	214.14	0.02	0.00	214.60
Total	**2.59**	**8.39**	**9.55**	**0.02**	**0.39**	**0.63**	**1.02**	**0.05**	**0.63**	**0.69**	**0.00**	**1,519.47**	**1,519.47**	**0.14**	**0.00**	**1,522.56**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.50	0.00	0.00	0.00		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	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	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.50	0.00	0.00	0.00		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	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	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.50**	**0.00**	**0.00**	**0.00**	**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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.29	2.30	1.38	0.00		0.11	0.11		0.11	0.11	0.00	221.38	221.38	0.02	0.00	221.88
Total	**0.29**	**2.30**	**1.38**	**0.00**	**0.02**	**0.11**	**0.13**	**0.00**	**0.11**	**0.11**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.88**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.05	0.02	0.00	0.13	0.00	0.13	0.00	0.00	0.00	0.00	7.10	7.10	0.00	0.00	7.11
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.95	4.95	0.00	0.00	4.96
Total	**0.00**	**0.05**	**0.05**	**0.00**	**0.14**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**12.05**	**12.05**	**0.00**	**0.00**	**12.07**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.19	1.21	1.32	0.00		0.09	0.09		0.09	0.09	0.00	221.38	221.38	0.02	0.00	221.88
Total	**0.19**	**1.21**	**1.32**	**0.00**	**0.01**	**0.09**	**0.10**	**0.00**	**0.09**	**0.09**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.88**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.05	0.02	0.00	0.13	0.00	0.13	0.00	0.00	0.00	0.00	7.10	7.10	0.00	0.00	7.11
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.95	4.95	0.00	0.00	4.96
Total	**0.00**	**0.05**	**0.05**	**0.00**	**0.14**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**12.05**	**12.05**	**0.00**	**0.00**	**12.07**

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	tons/yr										MT/yr					
Fugitive Dust					0.21	0.00	0.21	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.39	3.22	1.74	0.00		0.15	0.15		0.15	0.15	0.00	324.93	324.93	0.03	0.00	325.59
Total	**0.39**	**3.22**	**1.74**	**0.00**	**0.21**	**0.15**	**0.36**	**0.11**	**0.15**	**0.26**	**0.00**	**324.93**	**324.93**	**0.03**	**0.00**	**325.59**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.71	6.71	0.00	0.00	6.72
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.71**	**6.71**	**0.00**	**0.00**	**6.72**

3.3 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.26	1.66	1.87	0.00		0.11	0.11		0.11	0.11	0.00	324.93	324.93	0.03	0.00	325.59
Total	**0.26**	**1.66**	**1.87**	**0.00**	**0.08**	**0.11**	**0.19**	**0.04**	**0.11**	**0.15**	**0.00**	**324.93**	**324.93**	**0.03**	**0.00**	**325.59**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.71	6.71	0.00	0.00	6.72
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.71**	**6.71**	**0.00**	**0.00**	**6.72**

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	tons/yr										MT/yr					
Off-Road	0.17	1.14	0.77	0.00		0.08	0.08		0.08	0.08	0.00	120.93	120.93	0.01	0.00	121.22
Total	**0.17**	**1.14**	**0.77**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.22**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.92	13.92	0.00	0.00	13.92
Worker	0.01	0.01	0.10	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	14.76	14.76	0.00	0.00	14.77
Total	**0.02**	**0.10**	**0.15**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**28.68**	**28.68**	**0.00**	**0.00**	**28.69**

3.4 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.77	0.84	0.00		0.06	0.06		0.06	0.06	0.00	120.93	120.93	0.01	0.00	121.22
Total	**0.13**	**0.77**	**0.84**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.22**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.09	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.92	13.92	0.00	0.00	13.92
Worker	0.01	0.01	0.10	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	14.76	14.76	0.00	0.00	14.77
Total	**0.02**	**0.10**	**0.15**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**28.68**	**28.68**	**0.00**	**0.00**	**28.69**

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	tons/yr										MT/yr					
Off-Road	0.62	4.18	3.03	0.01		0.26	0.26		0.26	0.26	0.00	478.23	478.23	0.05	0.00	479.28
Total	**0.62**	**4.18**	**3.03**	**0.01**		**0.26**	**0.26**		**0.26**	**0.26**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.33	0.19	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	55.14	55.14	0.00	0.00	55.16
Worker	0.03	0.03	0.35	0.00	0.08	0.00	0.08	0.00	0.00	0.01	0.00	57.28	57.28	0.00	0.00	57.35
Total	**0.06**	**0.36**	**0.54**	**0.00**	**0.10**	**0.01**	**0.11**	**0.00**	**0.01**	**0.02**	**0.00**	**112.42**	**112.42**	**0.00**	**0.00**	**112.51**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.51	3.00	3.31	0.01		0.25	0.25		0.25	0.25	0.00	478.23	478.23	0.05	0.00	479.28
Total	**0.51**	**3.00**	**3.31**	**0.01**		**0.25**	**0.25**		**0.25**	**0.25**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.33	0.19	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	55.14	55.14	0.00	0.00	55.16
Worker	0.03	0.03	0.35	0.00	0.08	0.00	0.08	0.00	0.00	0.01	0.00	57.28	57.28	0.00	0.00	57.35
Total	**0.06**	**0.36**	**0.54**	**0.00**	**0.10**	**0.01**	**0.11**	**0.00**	**0.01**	**0.02**	**0.00**	**112.42**	**112.42**	**0.00**	**0.00**	**112.51**

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	tons/yr										MT/yr					
Off-Road	0.14	0.93	0.74	0.00		0.06	0.06		0.06	0.06	0.00	117.27	117.27	0.01	0.00	117.50
Total	**0.14**	**0.93**	**0.74**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**117.27**	**117.27**	**0.01**	**0.00**	**117.50**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.07	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.53	13.53	0.00	0.00	13.54
Worker	0.01	0.01	0.08	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.73	13.73	0.00	0.00	13.74
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**27.26**	**27.26**	**0.00**	**0.00**	**27.28**

3.4 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.72	0.81	0.00		0.06	0.06		0.06	0.06	0.00	117.27	117.27	0.01	0.00	117.50
Total	**0.12**	**0.72**	**0.81**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**117.27**	**117.27**	**0.01**	**0.00**	**117.50**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.07	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.53	13.53	0.00	0.00	13.54
Worker	0.01	0.01	0.08	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.73	13.73	0.00	0.00	13.74
Total	**0.02**	**0.08**	**0.12**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**27.26**	**27.26**	**0.00**	**0.00**	**27.28**

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	tons/yr										MT/yr					
Archit. Coating	1.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.08	0.06	0.00		0.01	0.01		0.01	0.01	0.00	8.16	8.16	0.00	0.00	8.18
Total	**1.21**	**0.08**	**0.06**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**8.16**	**8.16**	**0.00**	**0.00**	**8.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.81	2.81	0.00	0.00	2.81
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.81**	**2.81**	**0.00**	**0.00**	**2.81**

3.5 Architectural Coating - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.08	0.06	0.00		0.01	0.01		0.01	0.01	0.00	8.16	8.16	0.00	0.00	8.18
Total	**1.21**	**0.08**	**0.06**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**8.16**	**8.16**	**0.00**	**0.00**	**8.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.81	2.81	0.00	0.00	2.81
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.81**	**2.81**	**0.00**	**0.00**	**2.81**

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	tons/yr										MT/yr					
Off-Road	0.10	0.63	0.43	0.00		0.05	0.05		0.05	0.05	0.00	55.57	55.57	0.01	0.00	55.74
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.63**	**0.43**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**55.57**	**55.57**	**0.01**	**0.00**	**55.74**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	3.07	0.00	0.00	3.07
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.07**	**3.07**	**0.00**	**0.00**	**3.07**

3.6 Paving - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.40	0.00		0.03	0.03		0.03	0.03	0.00	55.57	55.57	0.01	0.00	55.74
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.40**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**55.57**	**55.57**	**0.01**	**0.00**	**55.74**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	3.07	0.00	0.00	3.07
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.07**	**3.07**	**0.00**	**0.00**	**3.07**

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	tons/yr										MT/yr					
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	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	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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	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	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	tons/yr										MT/yr					
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	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**	**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	tons/yr										MT/yr					
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	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**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Recreational	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Recreational	0					0.00	0.00	0.00	0.00
Total						**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	tons/yr										MT/yr					
Mitigated	0.50	0.00	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	0.50	0.00	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**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.12					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.38					0.00	0.00		0.00	0.00	0.00	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	0.00	0.00	0.00
Total	**0.50**	**0.00**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.12					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.38					0.00	0.00		0.00	0.00	0.00	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	0.00	0.00	0.00
Total	**0.50**	**0.00**	**0.00**	**0.00**		**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

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Recreational	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Recreational	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Recreational	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Recreational	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Waterman Gardens - Construction Phase 2A

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.77	5.43	4.18	0.01	0.45	0.29	0.74	0.12	0.29	0.41	0.00	703.25	703.25	0.06	0.00	704.56
2016	0.59	3.72	3.63	0.01	0.16	0.22	0.37	0.01	0.22	0.23	0.00	619.92	619.92	0.05	0.00	620.92
2017	0.65	0.66	0.55	0.00	0.01	0.05	0.07	0.00	0.05	0.05	0.00	74.50	74.50	0.01	0.00	74.69
Total	**2.01**	**9.81**	**8.36**	**0.02**	**0.62**	**0.56**	**1.18**	**0.13**	**0.56**	**0.69**	**0.00**	**1,397.67**	**1,397.67**	**0.12**	**0.00**	**1,400.17**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.28	0.82	4.21	0.01	0.31	0.05	0.36	0.05	0.05	0.10	0.00	703.25	703.25	0.06	0.00	704.56
2016	0.27	0.76	3.90	0.01	0.16	0.04	0.20	0.01	0.04	0.05	0.00	619.92	619.92	0.05	0.00	620.92
2017	0.57	0.11	0.52	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	74.50	74.50	0.01	0.00	74.69
Total	**1.12**	**1.69**	**8.63**	**0.02**	**0.48**	**0.10**	**0.58**	**0.06**	**0.10**	**0.16**	**0.00**	**1,397.67**	**1,397.67**	**0.12**	**0.00**	**1,400.17**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.86	0.03	2.24	0.00		0.00	0.11		0.00	0.11	11.05	66.27	77.32	0.04	0.00	78.55
Energy	0.01	0.08	0.04	0.00		0.00	0.01		0.00	0.01	0.00	268.39	268.39	0.01	0.00	270.06
Mobile	0.52	1.41	4.52	0.01	1.41	0.07	1.48	0.02	0.06	0.09	0.00	1,074.19	1,074.19	0.04	0.00	1,074.93
Waste						0.00	0.00		0.00	0.00	11.98	0.00	11.98	0.71	0.00	26.84
Water						0.00	0.00		0.00	0.00	0.00	51.87	51.87	0.27	0.01	60.00
Total	**1.39**	**1.52**	**6.80**	**0.01**	**1.41**	**0.07**	**1.60**	**0.02**	**0.06**	**0.21**	**23.03**	**1,460.72**	**1,483.75**	**1.07**	**0.01**	**1,510.38**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.86	0.03	2.24	0.00		0.00	0.11		0.00	0.11	11.05	66.27	77.32	0.04	0.00	78.55
Energy	0.01	0.08	0.04	0.00		0.00	0.01		0.00	0.01	0.00	268.39	268.39	0.01	0.00	270.06
Mobile	0.52	1.41	4.52	0.01	1.41	0.07	1.48	0.02	0.06	0.09	0.00	1,074.19	1,074.19	0.04	0.00	1,074.93
Waste						0.00	0.00		0.00	0.00	11.98	0.00	11.98	0.71	0.00	26.84
Water						0.00	0.00		0.00	0.00	0.00	51.87	51.87	0.27	0.01	60.00
Total	**1.39**	**1.52**	**6.80**	**0.01**	**1.41**	**0.07**	**1.60**	**0.02**	**0.06**	**0.21**	**23.03**	**1,460.72**	**1,483.75**	**1.07**	**0.01**	**1,510.38**

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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	1.95	1.27	0.00		0.09	0.09		0.09	0.09	0.00	217.98	217.98	0.02	0.00	218.41
Total	**0.25**	**1.95**	**1.27**	**0.00**	**0.02**	**0.09**	**0.11**	**0.00**	**0.09**	**0.09**	**0.00**	**217.98**	**217.98**	**0.02**	**0.00**	**218.41**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.13	0.00	0.13	0.00	0.00	0.00	0.00	7.33	7.33	0.00	0.00	7.33
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.68	4.68	0.00	0.00	4.69
Total	**0.00**	**0.04**	**0.05**	**0.00**	**0.14**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**12.01**	**12.01**	**0.00**	**0.00**	**12.02**

3.2 Demolition - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.08	0.28	1.21	0.00		0.02	0.02		0.02	0.02	0.00	217.98	217.98	0.02	0.00	218.41
Total	**0.08**	**0.28**	**1.21**	**0.00**	**0.01**	**0.02**	**0.03**	**0.00**	**0.02**	**0.02**	**0.00**	**217.98**	**217.98**	**0.02**	**0.00**	**218.41**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.13	0.00	0.13	0.00	0.00	0.00	0.00	7.33	7.33	0.00	0.00	7.33
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.68	4.68	0.00	0.00	4.69
Total	**0.00**	**0.04**	**0.05**	**0.00**	**0.14**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**12.01**	**12.01**	**0.00**	**0.00**	**12.02**

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	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.36	0.96	0.00		0.07	0.07		0.07	0.07	0.00	154.45	154.45	0.01	0.00	154.76
Total	**0.18**	**1.36**	**0.96**	**0.00**	**0.20**	**0.07**	**0.27**	**0.11**	**0.07**	**0.18**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.75	4.75	0.00	0.00	4.76
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.75**	**4.75**	**0.00**	**0.00**	**4.76**

3.3 Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.09	0.93	0.00		0.00	0.00		0.00	0.00	0.00	154.45	154.45	0.01	0.00	154.76
Total	**0.04**	**0.09**	**0.93**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.75	4.75	0.00	0.00	4.76
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.75**	**4.75**	**0.00**	**0.00**	**4.76**

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	tons/yr										MT/yr					
Off-Road	0.29	1.92	1.52	0.00		0.12	0.12		0.12	0.12	0.00	241.86	241.86	0.02	0.00	242.35
Total	**0.29**	**1.92**	**1.52**	**0.00**		**0.12**	**0.12**		**0.12**	**0.12**	**0.00**	**241.86**	**241.86**	**0.02**	**0.00**	**242.35**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.12	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	21.34	21.34	0.00	0.00	21.35
Worker	0.03	0.03	0.29	0.00	0.07	0.00	0.07	0.00	0.00	0.01	0.00	50.84	50.84	0.00	0.00	50.90
Total	**0.04**	**0.15**	**0.36**	**0.00**	**0.08**	**0.00**	**0.08**	**0.00**	**0.00**	**0.01**	**0.00**	**72.18**	**72.18**	**0.00**	**0.00**	**72.25**

3.4 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.26	1.64	0.00		0.02	0.02		0.02	0.02	0.00	241.86	241.86	0.02	0.00	242.35
Total	**0.11**	**0.26**	**1.64**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**241.86**	**241.86**	**0.02**	**0.00**	**242.35**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.12	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	21.34	21.34	0.00	0.00	21.35
Worker	0.03	0.03	0.29	0.00	0.07	0.00	0.07	0.00	0.00	0.01	0.00	50.84	50.84	0.00	0.00	50.90
Total	**0.04**	**0.15**	**0.36**	**0.00**	**0.08**	**0.00**	**0.08**	**0.00**	**0.00**	**0.01**	**0.00**	**72.18**	**72.18**	**0.00**	**0.00**	**72.25**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.46	2.97	0.01		0.21	0.21		0.21	0.21	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.52**	**3.46**	**2.97**	**0.01**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.02	0.21	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	42.39	42.39	0.00	0.00	42.41
Worker	0.05	0.05	0.53	0.00	0.14	0.00	0.15	0.01	0.00	0.01	0.00	99.30	99.30	0.00	0.00	99.40
Total	**0.07**	**0.26**	**0.65**	**0.00**	**0.15**	**0.01**	**0.17**	**0.01**	**0.01**	**0.02**	**0.00**	**141.69**	**141.69**	**0.00**	**0.00**	**141.81**

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	0.50	3.24	0.01		0.03	0.03		0.03	0.03	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.21**	**0.50**	**3.24**	**0.01**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.02	0.21	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	42.39	42.39	0.00	0.00	42.41
Worker	0.05	0.05	0.53	0.00	0.14	0.00	0.15	0.01	0.00	0.01	0.00	99.30	99.30	0.00	0.00	99.40
Total	**0.07**	**0.26**	**0.65**	**0.00**	**0.15**	**0.01**	**0.17**	**0.01**	**0.01**	**0.02**	**0.00**	**141.69**	**141.69**	**0.00**	**0.00**	**141.81**

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	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	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**	**0.00**	**0.00**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	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**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	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**	**0.00**	**0.00**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	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**	**0.00**	**0.00**	**0.00**	**0.00**

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	tons/yr										MT/yr					
Archit. Coating	0.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.06	0.00		0.01	0.01		0.01	0.01	0.00	8.29	8.29	0.00	0.00	8.31
Total	**0.55**	**0.07**	**0.06**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.90	4.90	0.00	0.00	4.90
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.90**	**4.90**	**0.00**	**0.00**	**4.90**

3.5 Architectural Coating - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.06	0.00		0.01	0.01		0.01	0.01	0.00	8.29	8.29	0.00	0.00	8.31
Total	**0.55**	**0.07**	**0.06**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.90	4.90	0.00	0.00	4.90
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.90**	**4.90**	**0.00**	**0.00**	**4.90**

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	tons/yr										MT/yr					
Off-Road	0.09	0.58	0.45	0.00		0.05	0.05		0.05	0.05	0.00	58.21	58.21	0.01	0.00	58.38
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.58**	**0.45**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**58.21**	**58.21**	**0.01**	**0.00**	**58.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.11	3.11	0.00	0.00	3.11
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.11**	**3.11**	**0.00**	**0.00**	**3.11**

3.6 Paving - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.03	0.42	0.00		0.00	0.00		0.00	0.00	0.00	58.21	58.21	0.01	0.00	58.38
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.03**	**0.42**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**58.21**	**58.21**	**0.01**	**0.00**	**58.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.11	3.11	0.00	0.00	3.11
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.11**	**3.11**	**0.00**	**0.00**	**3.11**

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	tons/yr										MT/yr					
Mitigated	0.52	1.41	4.52	0.01	1.41	0.07	1.48	0.02	0.06	0.09	0.00	1,074.19	1,074.19	0.04	0.00	1,074.93
Unmitigated	0.52	1.41	4.52	0.01	1.41	0.07	1.48	0.02	0.06	0.09	0.00	1,074.19	1,074.19	0.04	0.00	1,074.93
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	172.61	172.61	0.01	0.00	173.70
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	172.61	172.61	0.01	0.00	173.70
NaturalGas Mitigated	0.01	0.08	0.04	0.00		0.00	0.01		0.00	0.01	0.00	95.78	95.78	0.00	0.00	96.36
NaturalGas Unmitigated	0.01	0.08	0.04	0.00		0.00	0.01		0.00	0.01	0.00	95.78	95.78	0.00	0.00	96.36
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	tons/yr										MT/yr					
Apartments Low Rise	1.75106e+006	0.01	0.08	0.03	0.00		0.00	0.01		0.00	0.01	0.00	93.44	93.44	0.00	0.00	94.01
General Office Building	43800	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	2.34	2.34	0.00	0.00	2.35
Total		**0.01**	**0.08**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**95.78**	**95.78**	**0.00**	**0.00**	**96.36**

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	tons/yr										MT/yr					
Apartments Low Rise	1.75106e+006	0.01	0.08	0.03	0.00		0.00	0.01		0.00	0.01	0.00	93.44	93.44	0.00	0.00	94.01
General Office Building	43800	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	2.34	2.34	0.00	0.00	2.35
Total		**0.01**	**0.08**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**95.78**	**95.78**	**0.00**	**0.00**	**96.36**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	465159					135.30	0.01	0.00	136.15
General Office Building	128280					37.31	0.00	0.00	37.55
Total						**172.61**	**0.01**	**0.00**	**173.70**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	465159					135.30	0.01	0.00	136.15
General Office Building	128280					37.31	0.00	0.00	37.55
Total						**172.61**	**0.01**	**0.00**	**173.70**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.86	0.03	2.24	0.00		0.00	0.11		0.00	0.11	11.05	66.27	77.32	0.04	0.00	78.55
Unmitigated	0.86	0.03	2.24	0.00		0.00	0.11		0.00	0.11	11.05	66.27	77.32	0.04	0.00	78.55
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	tons/yr										MT/yr					
Architectural Coating	0.05					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.41					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.34	0.01	0.65	0.00		0.00	0.10		0.00	0.10	11.05	63.68	74.73	0.03	0.00	75.91
Landscaping	0.05	0.02	1.58	0.00		0.00	0.01		0.00	0.01	0.00	2.59	2.59	0.00	0.00	2.64
Total	**0.85**	**0.03**	**2.23**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**11.05**	**66.27**	**77.32**	**0.03**	**0.00**	**78.55**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.05					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.41					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.34	0.01	0.65	0.00		0.00	0.10		0.00	0.10	11.05	63.68	74.73	0.03	0.00	75.91
Landscaping	0.05	0.02	1.58	0.00		0.00	0.01		0.00	0.01	0.00	2.59	2.59	0.00	0.00	2.64
Total	**0.85**	**0.03**	**2.23**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**11.05**	**66.27**	**77.32**	**0.03**	**0.00**	**78.55**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					51.87	0.27	0.01	60.00
Unmitigated					51.87	0.27	0.01	60.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	6.77602 / 4.27184					39.54	0.21	0.01	45.73
General Office Building	2.1328 / 1.3072					12.33	0.07	0.00	14.27
Total						**51.87**	**0.28**	**0.01**	**60.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	6.77602 / 4.27184					39.54	0.21	0.01	45.73
General Office Building	2.1328 / 1.3072					12.33	0.07	0.00	14.27
Total						**51.87**	**0.28**	**0.01**	**60.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					11.98	0.71	0.00	26.84
Unmitigated					11.98	0.71	0.00	26.84
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	47.84					9.71	0.57	0.00	21.76
General Office Building	11.16					2.27	0.13	0.00	5.08
Total						**11.98**	**0.70**	**0.00**	**26.84**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	47.84					9.71	0.57	0.00	21.76
General Office Building	11.16					2.27	0.13	0.00	5.08
Total						**11.98**	**0.70**	**0.00**	**26.84**

9.0 Vegetation

Waterman Gardens - Construction Phase 2B

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.25	1.87	1.29	0.00	0.17	0.09	0.26	0.00	0.09	0.09	0.00	234.10	234.10	0.02	0.00	234.52
2017	0.55	3.62	3.48	0.01	0.29	0.20	0.49	0.11	0.20	0.31	0.00	594.27	594.27	0.04	0.00	595.21
2018	0.54	1.33	1.35	0.00	0.04	0.09	0.13	0.00	0.09	0.09	0.00	215.03	215.03	0.02	0.00	215.40
Total	**1.34**	**6.82**	**6.12**	**0.01**	**0.50**	**0.38**	**0.88**	**0.11**	**0.38**	**0.49**	**0.00**	**1,043.40**	**1,043.40**	**0.08**	**0.00**	**1,045.13**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.08	0.31	1.27	0.00	0.16	0.02	0.18	0.00	0.02	0.02	0.00	234.10	234.10	0.02	0.00	234.52
2017	0.23	0.59	3.71	0.01	0.17	0.03	0.21	0.05	0.03	0.08	0.00	594.27	594.27	0.04	0.00	595.21
2018	0.42	0.26	1.40	0.00	0.04	0.02	0.06	0.00	0.02	0.02	0.00	215.03	215.03	0.02	0.00	215.40
Total	**0.73**	**1.16**	**6.38**	**0.01**	**0.37**	**0.07**	**0.45**	**0.05**	**0.07**	**0.12**	**0.00**	**1,043.40**	**1,043.40**	**0.08**	**0.00**	**1,045.13**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.66	0.02	1.83	0.00		0.00	0.09		0.00	0.09	9.03	54.16	63.19	0.03	0.00	64.20
Energy	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	186.95	186.95	0.01	0.00	188.11
Mobile	0.37	1.01	3.24	0.01	1.01	0.05	1.06	0.02	0.05	0.06	0.00	770.05	770.05	0.03	0.00	770.58
Waste						0.00	0.00		0.00	0.00	7.94	0.00	7.94	0.47	0.00	17.79
Water						0.00	0.00		0.00	0.00	0.00	32.32	32.32	0.17	0.00	37.37
Total	**1.04**	**1.10**	**5.10**	**0.01**	**1.01**	**0.05**	**1.16**	**0.02**	**0.05**	**0.16**	**16.97**	**1,043.48**	**1,060.45**	**0.71**	**0.00**	**1,078.05**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.66	0.02	1.83	0.00		0.00	0.09		0.00	0.09	9.03	54.16	63.19	0.03	0.00	64.20
Energy	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	186.95	186.95	0.01	0.00	188.11
Mobile	0.37	1.01	3.24	0.01	1.01	0.05	1.06	0.02	0.05	0.06	0.00	770.05	770.05	0.03	0.00	770.58
Waste						0.00	0.00		0.00	0.00	7.94	0.00	7.94	0.47	0.00	17.79
Water						0.00	0.00		0.00	0.00	0.00	32.32	32.32	0.17	0.00	37.37
Total	**1.04**	**1.10**	**5.10**	**0.01**	**1.01**	**0.05**	**1.16**	**0.02**	**0.05**	**0.16**	**16.97**	**1,043.48**	**1,060.45**	**0.71**	**0.00**	**1,078.05**

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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.24	1.82	1.25	0.00		0.09	0.09		0.09	0.09	0.00	221.38	221.38	0.02	0.00	221.80
Total	**0.24**	**1.82**	**1.25**	**0.00**	**0.02**	**0.09**	**0.11**	**0.00**	**0.09**	**0.09**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.80**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.15	0.00	0.15	0.00	0.00	0.00	0.00	8.02	8.02	0.00	0.00	8.02
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.70	4.70	0.00	0.00	4.70
Total	**0.00**	**0.04**	**0.05**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.00**	**0.00**	**12.72**	**12.72**	**0.00**	**0.00**	**12.72**

3.2 Demolition - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.08	0.27	1.22	0.00		0.02	0.02		0.02	0.02	0.00	221.38	221.38	0.02	0.00	221.80
Total	**0.08**	**0.27**	**1.22**	**0.00**	**0.01**	**0.02**	**0.03**	**0.00**	**0.02**	**0.02**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.80**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.15	0.00	0.15	0.00	0.00	0.00	0.00	8.02	8.02	0.00	0.00	8.02
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.70	4.70	0.00	0.00	4.70
Total	**0.00**	**0.04**	**0.05**	**0.00**	**0.16**	**0.00**	**0.16**	**0.00**	**0.00**	**0.00**	**0.00**	**12.72**	**12.72**	**0.00**	**0.00**	**12.72**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.16	1.14	0.91	0.00		0.06	0.06		0.06	0.06	0.00	154.45	154.45	0.01	0.00	154.72
Total	**0.16**	**1.14**	**0.91**	**0.00**	**0.20**	**0.06**	**0.26**	**0.11**	**0.06**	**0.17**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

3.3 Grading - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.09	0.93	0.00		0.00	0.00		0.00	0.00	0.00	154.45	154.45	0.01	0.00	154.72
Total	**0.04**	**0.09**	**0.93**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.36	2.35	2.21	0.00		0.14	0.14		0.14	0.14	0.00	357.30	357.30	0.03	0.00	357.90
Total	**0.36**	**2.35**	**2.21**	**0.00**		**0.14**	**0.14**		**0.14**	**0.14**	**0.00**	**357.30**	**357.30**	**0.03**	**0.00**	**357.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.10	0.06	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	21.94	21.94	0.00	0.00	21.95
Worker	0.03	0.03	0.28	0.00	0.08	0.00	0.08	0.00	0.00	0.01	0.00	55.99	55.99	0.00	0.00	56.04
Total	**0.04**	**0.13**	**0.34**	**0.00**	**0.09**	**0.00**	**0.09**	**0.00**	**0.00**	**0.01**	**0.00**	**77.93**	**77.93**	**0.00**	**0.00**	**77.99**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.15	0.37	2.42	0.00		0.02	0.02		0.02	0.02	0.00	357.30	357.30	0.03	0.00	357.90
Total	**0.15**	**0.37**	**2.42**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**357.30**	**357.30**	**0.03**	**0.00**	**357.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.10	0.06	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	21.94	21.94	0.00	0.00	21.95
Worker	0.03	0.03	0.28	0.00	0.08	0.00	0.08	0.00	0.00	0.01	0.00	55.99	55.99	0.00	0.00	56.04
Total	**0.04**	**0.13**	**0.34**	**0.00**	**0.09**	**0.00**	**0.09**	**0.00**	**0.00**	**0.01**	**0.00**	**77.93**	**77.93**	**0.00**	**0.00**	**77.99**

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	tons/yr										MT/yr					
Off-Road	0.11	0.71	0.73	0.00		0.04	0.04		0.04	0.04	0.00	119.10	119.10	0.01	0.00	119.28
Total	**0.11**	**0.71**	**0.73**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**119.10**	**119.10**	**0.01**	**0.00**	**119.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.32	7.32	0.00	0.00	7.32
Worker	0.01	0.01	0.09	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	18.26	18.26	0.00	0.00	18.28
Total	**0.01**	**0.04**	**0.11**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**25.58**	**25.58**	**0.00**	**0.00**	**25.60**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.12	0.80	0.00		0.01	0.01		0.01	0.01	0.00	119.10	119.10	0.01	0.00	119.28
Total	**0.05**	**0.12**	**0.80**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**119.10**	**119.10**	**0.01**	**0.00**	**119.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.32	7.32	0.00	0.00	7.32
Worker	0.01	0.01	0.09	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	18.26	18.26	0.00	0.00	18.28
Total	**0.01**	**0.04**	**0.11**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**25.58**	**25.58**	**0.00**	**0.00**	**25.60**

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	tons/yr										MT/yr					
Archit. Coating	0.33					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.29	8.29	0.00	0.00	8.30
Total	**0.34**	**0.07**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.30**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.59	3.59	0.00	0.00	3.60
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.59**	**3.59**	**0.00**	**0.00**	**3.60**

3.5 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.33					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.29	8.29	0.00	0.00	8.30
Total	**0.34**	**0.07**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.30**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.59	3.59	0.00	0.00	3.60
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.59**	**3.59**	**0.00**	**0.00**	**3.60**

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	tons/yr										MT/yr					
Off-Road	0.08	0.52	0.42	0.00		0.04	0.04		0.04	0.04	0.00	55.57	55.57	0.01	0.00	55.71
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.52**	**0.42**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**55.57**	**55.57**	**0.01**	**0.00**	**55.71**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	2.90	0.00	0.00	2.90
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.90**	**2.90**	**0.00**	**0.00**	**2.90**

3.6 Paving - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.03	0.40	0.00		0.00	0.00		0.00	0.00	0.00	55.57	55.57	0.01	0.00	55.71
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.03**	**0.40**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**55.57**	**55.57**	**0.01**	**0.00**	**55.71**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	2.90	0.00	0.00	2.90
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.90**	**2.90**	**0.00**	**0.00**	**2.90**

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	tons/yr										MT/yr					
Mitigated	0.37	1.01	3.24	0.01	1.01	0.05	1.06	0.02	0.05	0.06	0.00	770.05	770.05	0.03	0.00	770.58
Unmitigated	0.37	1.01	3.24	0.01	1.01	0.05	1.06	0.02	0.05	0.06	0.00	770.05	770.05	0.03	0.00	770.58
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	110.58	110.58	0.01	0.00	111.28
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	110.58	110.58	0.01	0.00	111.28
NaturalGas Mitigated	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	76.37	76.37	0.00	0.00	76.84
NaturalGas Unmitigated	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	76.37	76.37	0.00	0.00	76.84
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	tons/yr										MT/yr					
Apartments Low Rise	1.43115e+006	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	76.37	76.37	0.00	0.00	76.84
Total		**0.01**	**0.07**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**76.37**	**76.37**	**0.00**	**0.00**	**76.84**

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	tons/yr										MT/yr					
Apartments Low Rise	1.43115e+006	0.01	0.07	0.03	0.00		0.00	0.01		0.00	0.01	0.00	76.37	76.37	0.00	0.00	76.84
Total		**0.01**	**0.07**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**76.37**	**76.37**	**0.00**	**0.00**	**76.84**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	380178					110.58	0.01	0.00	111.28
Total						**110.58**	**0.01**	**0.00**	**111.28**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	380178					110.58	0.01	0.00	111.28
Total						**110.58**	**0.01**	**0.00**	**111.28**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.66	0.02	1.83	0.00		0.00	0.09		0.00	0.09	9.03	54.16	63.19	0.03	0.00	64.20
Unmitigated	0.66	0.02	1.83	0.00		0.00	0.09		0.00	0.09	9.03	54.16	63.19	0.03	0.00	64.20
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	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.28	0.01	0.53	0.00		0.00	0.08		0.00	0.08	9.03	52.05	61.08	0.03	0.00	62.04
Landscaping	0.04	0.01	1.29	0.00		0.00	0.01		0.00	0.01	0.00	2.11	2.11	0.00	0.00	2.16
Total	**0.65**	**0.02**	**1.82**	**0.00**		**0.00**	**0.09**		**0.00**	**0.09**	**9.03**	**54.16**	**63.19**	**0.03**	**0.00**	**64.20**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.28	0.01	0.53	0.00		0.00	0.08		0.00	0.08	9.03	52.05	61.08	0.03	0.00	62.04
Landscaping	0.04	0.01	1.29	0.00		0.00	0.01		0.00	0.01	0.00	2.11	2.11	0.00	0.00	2.16
Total	**0.65**	**0.02**	**1.82**	**0.00**		**0.00**	**0.09**		**0.00**	**0.09**	**9.03**	**54.16**	**63.19**	**0.03**	**0.00**	**64.20**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					32.32	0.17	0.00	37.37
Unmitigated					32.32	0.17	0.00	37.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	5.53809 / 3.49141					32.32	0.17	0.00	37.37
Total						**32.32**	**0.17**	**0.00**	**37.37**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	5.53809 / 3.49141					32.32	0.17	0.00	37.37
Total						**32.32**	**0.17**	**0.00**	**37.37**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					7.94	0.47	0.00	17.79
Unmitigated					7.94	0.47	0.00	17.79
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	39.1					7.94	0.47	0.00	17.79
Total						**7.94**	**0.47**	**0.00**	**17.79**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	39.1					7.94	0.47	0.00	17.79
Total						**7.94**	**0.47**	**0.00**	**17.79**

9.0 Vegetation

Waterman Gardens - Construction Phase 3A

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.60	4.09	3.77	0.01	0.31	0.20	0.52	0.11	0.20	0.31	0.00	672.38	672.38	0.05	0.00	673.40
2019	0.57	1.78	2.05	0.00	0.06	0.10	0.16	0.00	0.10	0.10	0.00	342.34	342.34	0.02	0.00	342.83
Total	**1.17**	**5.87**	**5.82**	**0.01**	**0.37**	**0.30**	**0.68**	**0.11**	**0.30**	**0.41**	**0.00**	**1,014.72**	**1,014.72**	**0.07**	**0.00**	**1,016.23**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.24	0.66	4.00	0.01	0.19	0.04	0.23	0.04	0.04	0.08	0.00	672.38	672.38	0.05	0.00	673.40
2019	0.42	0.40	2.19	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	342.34	342.34	0.02	0.00	342.83
Total	**0.66**	**1.06**	**6.19**	**0.01**	**0.25**	**0.06**	**0.31**	**0.04**	**0.06**	**0.10**	**0.00**	**1,014.72**	**1,014.72**	**0.07**	**0.00**	**1,016.23**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.56	0.02	1.57	0.00		0.00	0.08		0.00	0.08	7.75	46.52	54.27	0.03	0.00	55.14
Energy	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	202,475.21	202,475.21	6.57	3.59	203,726.20
Mobile	0.14	0.37	1.18	0.00	0.37	0.02	0.39	0.01	0.02	0.02	0.00	281.69	281.69	0.01	0.00	281.89
Waste						0.00	0.00		0.00	0.00	6.82	0.00	6.82	0.40	0.00	15.28
Water						0.00	0.00		0.00	0.00	0.00	27.76	27.76	0.15	0.00	32.10
Total	**10.72**	**91.46**	**79.25**	**0.55**	**0.37**	**0.02**	**7.39**	**0.01**	**0.02**	**7.02**	**14.57**	**202,831.18**	**202,845.75**	**7.16**	**3.59**	**204,110.61**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.56	0.02	1.57	0.00		0.00	0.08		0.00	0.08	7.75	46.52	54.27	0.03	0.00	55.14
Energy	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	202,475.21	202,475.21	6.57	3.59	203,726.20
Mobile	0.14	0.37	1.18	0.00	0.37	0.02	0.39	0.01	0.02	0.02	0.00	281.69	281.69	0.01	0.00	281.89
Waste						0.00	0.00		0.00	0.00	6.82	0.00	6.82	0.40	0.00	15.28
Water						0.00	0.00		0.00	0.00	0.00	27.76	27.76	0.15	0.00	32.10
Total	**10.72**	**91.46**	**79.25**	**0.55**	**0.37**	**0.02**	**7.39**	**0.01**	**0.02**	**7.02**	**14.57**	**202,831.18**	**202,845.75**	**7.16**	**3.59**	**204,110.61**

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	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.21	1.53	1.17	0.00		0.07	0.07		0.07	0.07	0.00	221.38	221.38	0.02	0.00	221.74
Total	**0.21**	**1.53**	**1.17**	**0.00**	**0.01**	**0.07**	**0.08**	**0.00**	**0.07**	**0.07**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.74**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.01	0.01	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	2.44	2.44	0.00	0.00	2.44
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.49	4.49	0.00	0.00	4.49
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**6.93**	**6.93**	**0.00**	**0.00**	**6.93**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.07	0.25	1.22	0.00		0.01	0.01		0.01	0.01	0.00	221.38	221.38	0.02	0.00	221.74
Total	**0.07**	**0.25**	**1.22**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.74**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.01	0.01	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	2.44	2.44	0.00	0.00	2.44
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.49	4.49	0.00	0.00	4.49
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**6.93**	**6.93**	**0.00**	**0.00**	**6.93**

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	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	1.05	0.90	0.00		0.05	0.05		0.05	0.05	0.00	154.45	154.45	0.01	0.00	154.70
Total	**0.15**	**1.05**	**0.90**	**0.00**	**0.20**	**0.05**	**0.25**	**0.11**	**0.05**	**0.16**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.49	4.49	0.00	0.00	4.49
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.49**	**4.49**	**0.00**	**0.00**	**4.49**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.09	0.93	0.00		0.00	0.00		0.00	0.00	0.00	154.45	154.45	0.01	0.00	154.70
Total	**0.04**	**0.09**	**0.93**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**154.45**	**154.45**	**0.01**	**0.00**	**154.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.49	4.49	0.00	0.00	4.49
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.49**	**4.49**	**0.00**	**0.00**	**4.49**

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	tons/yr										MT/yr					
Off-Road	0.22	1.43	1.47	0.00		0.08	0.08		0.08	0.08	0.00	240.03	240.03	0.02	0.00	240.40
Total	**0.22**	**1.43**	**1.47**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**240.03**	**240.03**	**0.02**	**0.00**	**240.40**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.06	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.11	13.11	0.00	0.00	13.12
Worker	0.01	0.01	0.15	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	31.97	31.97	0.00	0.00	32.00
Total	**0.01**	**0.07**	**0.18**	**0.00**	**0.05**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**45.08**	**45.08**	**0.00**	**0.00**	**45.12**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.24	1.62	0.00		0.01	0.01		0.01	0.01	0.00	240.03	240.03	0.02	0.00	240.40
Total	**0.10**	**0.24**	**1.62**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**240.03**	**240.03**	**0.02**	**0.00**	**240.40**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.06	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.11	13.11	0.00	0.00	13.12
Worker	0.01	0.01	0.15	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	31.97	31.97	0.00	0.00	32.00
Total	**0.01**	**0.07**	**0.18**	**0.00**	**0.05**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**45.08**	**45.08**	**0.00**	**0.00**	**45.12**

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	tons/yr										MT/yr					
Off-Road	0.20	1.27	1.44	0.00		0.07	0.07		0.07	0.07	0.00	236.37	236.37	0.02	0.00	236.70
Total	**0.20**	**1.27**	**1.44**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**236.37**	**236.37**	**0.02**	**0.00**	**236.70**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	12.92	12.92	0.00	0.00	12.93
Worker	0.01	0.01	0.14	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	30.85	30.85	0.00	0.00	30.87
Total	**0.01**	**0.06**	**0.17**	**0.00**	**0.05**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**43.77**	**43.77**	**0.00**	**0.00**	**43.80**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.24	1.59	0.00		0.01	0.01		0.01	0.01	0.00	236.37	236.37	0.02	0.00	236.70
Total	**0.09**	**0.24**	**1.59**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**236.37**	**236.37**	**0.02**	**0.00**	**236.70**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	12.92	12.92	0.00	0.00	12.93
Worker	0.01	0.01	0.14	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	30.85	30.85	0.00	0.00	30.87
Total	**0.01**	**0.06**	**0.17**	**0.00**	**0.05**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**43.77**	**43.77**	**0.00**	**0.00**	**43.80**

3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.06	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.29	8.29	0.00	0.00	8.30
Total	**0.29**	**0.06**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.30**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.23	3.23	0.00	0.00	3.23
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**3.23**	**0.00**	**0.00**	**3.23**

3.5 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.06	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.29	8.29	0.00	0.00	8.30
Total	**0.29**	**0.06**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.29**	**8.29**	**0.00**	**0.00**	**8.30**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.23	3.23	0.00	0.00	3.23
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**3.23**	**0.00**	**0.00**	**3.23**

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	tons/yr										MT/yr					
Off-Road	0.06	0.38	0.35	0.00		0.03	0.03		0.03	0.03	0.00	46.81	46.81	0.00	0.00	46.92
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.38**	**0.35**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**46.81**	**46.81**	**0.00**	**0.00**	**46.92**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.88	3.88	0.00	0.00	3.88
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.88**	**3.88**	**0.00**	**0.00**	**3.88**

3.6 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.04	0.34	0.00		0.00	0.00		0.00	0.00	0.00	46.81	46.81	0.00	0.00	46.92
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.04**	**0.34**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**46.81**	**46.81**	**0.00**	**0.00**	**46.92**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.88	3.88	0.00	0.00	3.88
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.88**	**3.88**	**0.00**	**0.00**	**3.88**

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	tons/yr										MT/yr					
Mitigated	0.14	0.37	1.18	0.00	0.37	0.02	0.39	0.01	0.02	0.02	0.00	281.69	281.69	0.01	0.00	281.89
Unmitigated	0.14	0.37	1.18	0.00	0.37	0.02	0.39	0.01	0.02	0.02	0.00	281.69	281.69	0.01	0.00	281.89
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	103,336.90	103,336.90	4.67	1.77	103,984.55
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	103,336.90	103,336.90	4.67	1.77	103,984.55
NaturalGas Mitigated	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	99,138.31	99,138.31	1.90	1.82	99,741.65
NaturalGas Unmitigated	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	99,138.31	99,138.31	1.90	1.82	99,741.65
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	tons/yr										MT/yr					
Retirement Community	1.85778e+009	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	99,138.31	99,138.31	1.90	1.82	99,741.65
Total		**10.02**	**91.07**	**76.50**	**0.55**		**0.00**	**6.92**		**0.00**	**6.92**	**0.00**	**99,138.31**	**99,138.31**	**1.90**	**1.82**	**99,741.65**

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	tons/yr										MT/yr					
Retirement Community	1.85778e+009	10.02	91.07	76.50	0.55		0.00	6.92		0.00	6.92	0.00	99,138.31	99,138.31	1.90	1.82	99,741.65
Total		**10.02**	**91.07**	**76.50**	**0.55**		**0.00**	**6.92**		**0.00**	**6.92**	**0.00**	**99,138.31**	**99,138.31**	**1.90**	**1.82**	**99,741.65**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Retirement Community	3.55268e+008					103,336.90	4.67	1.77	103,984.55
Total						**103,336.90**	**4.67**	**1.77**	**103,984.55**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Retirement Community	3.55268e+008					103,336.90	4.67	1.77	103,984.55
Total						**103,336.90**	**4.67**	**1.77**	**103,984.55**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.56	0.02	1.57	0.00		0.00	0.08		0.00	0.08	7.75	46.52	54.27	0.03	0.00	55.14
Unmitigated	0.56	0.02	1.57	0.00		0.00	0.08		0.00	0.08	7.75	46.52	54.27	0.03	0.00	55.14
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	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.26					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.24	0.01	0.46	0.00		0.00	0.07		0.00	0.07	7.75	44.70	52.46	0.02	0.00	53.29
Landscaping	0.03	0.01	1.11	0.00		0.00	0.01		0.00	0.01	0.00	1.82	1.82	0.00	0.00	1.85
Total	**0.56**	**0.02**	**1.57**	**0.00**		**0.00**	**0.08**		**0.00**	**0.08**	**7.75**	**46.52**	**54.28**	**0.02**	**0.00**	**55.14**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.26					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.24	0.01	0.46	0.00		0.00	0.07		0.00	0.07	7.75	44.70	52.46	0.02	0.00	53.29
Landscaping	0.03	0.01	1.11	0.00		0.00	0.01		0.00	0.01	0.00	1.82	1.82	0.00	0.00	1.85
Total	**0.56**	**0.02**	**1.57**	**0.00**		**0.00**	**0.08**		**0.00**	**0.08**	**7.75**	**46.52**	**54.28**	**0.02**	**0.00**	**55.14**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					27.76	0.15	0.00	32.10
Unmitigated					27.76	0.15	0.00	32.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Retirement Community	4.75624 / 2.9985					27.76	0.15	0.00	32.10
Total						**27.76**	**0.15**	**0.00**	**32.10**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Retirement Community	4.75624 / 2.9985					27.76	0.15	0.00	32.10
Total						**27.76**	**0.15**	**0.00**	**32.10**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					6.82	0.40	0.00	15.28
Unmitigated					6.82	0.40	0.00	15.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Retirement Community	33.58					6.82	0.40	0.00	15.28
Total						**6.82**	**0.40**	**0.00**	**15.28**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Retirement Community	33.58					6.82	0.40	0.00	15.28
Total						**6.82**	**0.40**	**0.00**	**15.28**

9.0 Vegetation

Waterman Gardens - Construction Phase 3B

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.46	3.12	2.97	0.01	0.42	0.15	0.57	0.11	0.15	0.26	0.00	553.36	553.36	0.04	0.00	554.14
2020	1.09	2.44	3.09	0.01	0.14	0.13	0.27	0.00	0.13	0.13	0.00	541.96	541.96	0.03	0.00	542.65
Total	**1.55**	**5.56**	**6.06**	**0.02**	**0.56**	**0.28**	**0.84**	**0.11**	**0.28**	**0.39**	**0.00**	**1,095.32**	**1,095.32**	**0.07**	**0.00**	**1,096.79**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.18	0.54	3.17	0.01	0.29	0.03	0.32	0.05	0.03	0.07	0.00	553.36	553.36	0.04	0.00	554.14
2020	0.90	0.61	3.31	0.01	0.14	0.03	0.17	0.00	0.03	0.03	0.00	541.96	541.96	0.03	0.00	542.65
Total	**1.08**	**1.15**	**6.48**	**0.02**	**0.43**	**0.06**	**0.49**	**0.05**	**0.06**	**0.10**	**0.00**	**1,095.32**	**1,095.32**	**0.07**	**0.00**	**1,096.79**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.91	0.03	2.19	0.00		0.00	0.11		0.00	0.11	10.83	65.00	75.83	0.04	0.00	77.04
Energy	0.01	0.12	0.07	0.00		0.00	0.01		0.00	0.01	0.00	354.25	354.25	0.01	0.01	356.45
Mobile	0.54	1.46	4.68	0.01	1.46	0.07	1.53	0.02	0.07	0.09	0.00	1,114.39	1,114.39	0.04	0.00	1,115.16
Waste						0.00	0.00		0.00	0.00	316.58	0.00	316.58	18.71	0.00	709.47
Water						0.00	0.00		0.00	0.00	0.00	524.40	524.40	4.13	0.11	645.45
Total	**1.46**	**1.61**	**6.94**	**0.01**	**1.46**	**0.07**	**1.65**	**0.02**	**0.07**	**0.21**	**327.41**	**2,058.04**	**2,385.45**	**22.93**	**0.12**	**2,903.57**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.91	0.03	2.19	0.00		0.00	0.11		0.00	0.11	10.83	65.00	75.83	0.04	0.00	77.04
Energy	0.01	0.12	0.07	0.00		0.00	0.01		0.00	0.01	0.00	354.25	354.25	0.01	0.01	356.45
Mobile	0.54	1.46	4.68	0.01	1.46	0.07	1.53	0.02	0.07	0.09	0.00	1,114.39	1,114.39	0.04	0.00	1,115.16
Waste						0.00	0.00		0.00	0.00	316.58	0.00	316.58	18.71	0.00	709.47
Water						0.00	0.00		0.00	0.00	0.00	524.40	524.40	4.13	0.11	645.45
Total	**1.46**	**1.61**	**6.94**	**0.01**	**1.46**	**0.07**	**1.65**	**0.02**	**0.07**	**0.21**	**327.41**	**2,058.04**	**2,385.45**	**22.93**	**0.12**	**2,903.57**

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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.20	1.40	1.14	0.00		0.06	0.06		0.06	0.06	0.00	221.38	221.38	0.02	0.00	221.72
Total	**0.20**	**1.40**	**1.14**	**0.00**	**0.02**	**0.06**	**0.08**	**0.00**	**0.06**	**0.06**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.03	0.02	0.00	0.14	0.00	0.14	0.00	0.00	0.00	0.00	7.93	7.93	0.00	0.00	7.94
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.40	4.40	0.00	0.00	4.40
Total	**0.00**	**0.03**	**0.04**	**0.00**	**0.15**	**0.00**	**0.15**	**0.00**	**0.00**	**0.00**	**0.00**	**12.33**	**12.33**	**0.00**	**0.00**	**12.34**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.07	0.24	1.22	0.00		0.01	0.01		0.01	0.01	0.00	221.38	221.38	0.02	0.00	221.72
Total	**0.07**	**0.24**	**1.22**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**221.38**	**221.38**	**0.02**	**0.00**	**221.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.03	0.02	0.00	0.14	0.00	0.14	0.00	0.00	0.00	0.00	7.93	7.93	0.00	0.00	7.94
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.40	4.40	0.00	0.00	4.40
Total	**0.00**	**0.03**	**0.04**	**0.00**	**0.15**	**0.00**	**0.15**	**0.00**	**0.00**	**0.00**	**0.00**	**12.33**	**12.33**	**0.00**	**0.00**	**12.34**

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	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.14	0.97	0.89	0.00		0.05	0.05		0.05	0.05	0.00	156.83	156.83	0.01	0.00	157.07
Total	**0.14**	**0.97**	**0.89**	**0.00**	**0.20**	**0.05**	**0.25**	**0.11**	**0.05**	**0.16**	**0.00**	**156.83**	**156.83**	**0.01**	**0.00**	**157.07**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.47	4.47	0.00	0.00	4.47
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.47**	**4.47**	**0.00**	**0.00**	**4.47**

3.3 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.09	0.94	0.00		0.00	0.00		0.00	0.00	0.00	156.83	156.83	0.01	0.00	157.07
Total	**0.04**	**0.09**	**0.94**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**156.83**	**156.83**	**0.01**	**0.00**	**157.07**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.47	4.47	0.00	0.00	4.47
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.47**	**4.47**	**0.00**	**0.00**	**4.47**

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	tons/yr										MT/yr					
Off-Road	0.10	0.65	0.74	0.00		0.03	0.03		0.03	0.03	0.00	120.93	120.93	0.01	0.00	121.10
Total	**0.10**	**0.65**	**0.74**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.10**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	12.40	12.40	0.00	0.00	12.40
Worker	0.01	0.01	0.11	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.01	25.01	0.00	0.00	25.04
Total	**0.01**	**0.06**	**0.14**	**0.00**	**0.04**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**37.41**	**37.41**	**0.00**	**0.00**	**37.44**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.12	0.81	0.00		0.01	0.01		0.01	0.01	0.00	120.93	120.93	0.01	0.00	121.10
Total	**0.05**	**0.12**	**0.81**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.10**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.05	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	12.40	12.40	0.00	0.00	12.40
Worker	0.01	0.01	0.11	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	25.01	25.01	0.00	0.00	25.04
Total	**0.01**	**0.06**	**0.14**	**0.00**	**0.04**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**37.41**	**37.41**	**0.00**	**0.00**	**37.44**

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	tons/yr										MT/yr					
Off-Road	0.27	1.75	2.18	0.00		0.09	0.09		0.09	0.09	0.00	359.13	359.13	0.02	0.00	359.60
Total	**0.27**	**1.75**	**2.18**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**359.13**	**359.13**	**0.02**	**0.00**	**359.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.14	0.08	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	36.84	36.84	0.00	0.00	36.85
Worker	0.03	0.03	0.31	0.00	0.11	0.00	0.12	0.00	0.00	0.01	0.00	72.87	72.87	0.00	0.00	72.93
Total	**0.04**	**0.17**	**0.39**	**0.00**	**0.12**	**0.00**	**0.14**	**0.00**	**0.00**	**0.01**	**0.00**	**109.71**	**109.71**	**0.00**	**0.00**	**109.78**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.35	2.42	0.00		0.02	0.02		0.02	0.02	0.00	359.13	359.13	0.02	0.00	359.60
Total	**0.13**	**0.35**	**2.42**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**359.13**	**359.13**	**0.02**	**0.00**	**359.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.14	0.08	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	36.84	36.84	0.00	0.00	36.85
Worker	0.03	0.03	0.31	0.00	0.11	0.00	0.12	0.00	0.00	0.01	0.00	72.87	72.87	0.00	0.00	72.93
Total	**0.04**	**0.17**	**0.39**	**0.00**	**0.12**	**0.00**	**0.14**	**0.00**	**0.00**	**0.01**	**0.00**	**109.71**	**109.71**	**0.00**	**0.00**	**109.78**

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	tons/yr										MT/yr					
Archit. Coating	0.69					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.06	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.42	8.42	0.00	0.00	8.43
Total	**0.70**	**0.06**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.42**	**8.42**	**0.00**	**0.00**	**8.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.97	4.97	0.00	0.00	4.97
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.97**	**4.97**	**0.00**	**0.00**	**4.97**

3.5 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.69					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.06	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.42	8.42	0.00	0.00	8.43
Total	**0.70**	**0.06**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.42**	**8.42**	**0.00**	**0.00**	**8.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.97	4.97	0.00	0.00	4.97
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.97**	**4.97**	**0.00**	**0.00**	**4.97**

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	tons/yr										MT/yr					
Off-Road	0.08	0.47	0.43	0.00		0.04	0.04		0.04	0.04	0.00	56.89	56.89	0.01	0.00	57.02
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.47**	**0.43**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**56.89**	**56.89**	**0.01**	**0.00**	**57.02**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85	2.85	0.00	0.00	2.86
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.85**	**2.85**	**0.00**	**0.00**	**2.86**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.03	0.41	0.00		0.00	0.00		0.00	0.00	0.00	56.89	56.89	0.01	0.00	57.02
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.03**	**0.41**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**56.89**	**56.89**	**0.01**	**0.00**	**57.02**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85	2.85	0.00	0.00	2.86
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.85**	**2.85**	**0.00**	**0.00**	**2.86**

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	tons/yr										MT/yr					
Mitigated	0.54	1.46	4.68	0.01	1.46	0.07	1.53	0.02	0.07	0.09	0.00	1,114.39	1,114.39	0.04	0.00	1,115.16
Unmitigated	0.54	1.46	4.68	0.01	1.46	0.07	1.53	0.02	0.07	0.09	0.00	1,114.39	1,114.39	0.04	0.00	1,115.16
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	216.42	216.42	0.01	0.00	217.77
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	216.42	216.42	0.01	0.00	217.77
NaturalGas Mitigated	0.01	0.12	0.07	0.00		0.00	0.01		0.00	0.01	0.00	137.83	137.83	0.00	0.00	138.67
NaturalGas Unmitigated	0.01	0.12	0.07	0.00		0.00	0.01		0.00	0.01	0.00	137.83	137.83	0.00	0.00	138.67
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	tons/yr										MT/yr					
Apartments Low Rise	1.71738e+006	0.01	0.08	0.03	0.00		0.00	0.01		0.00	0.01	0.00	91.65	91.65	0.00	0.00	92.20
General Light Industry	865540	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	46.19	46.19	0.00	0.00	46.47
Total		**0.01**	**0.12**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**137.84**	**137.84**	**0.00**	**0.00**	**138.67**

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	tons/yr										MT/yr					
Apartments Low Rise	1.71738e+006	0.01	0.08	0.03	0.00		0.00	0.01		0.00	0.01	0.00	91.65	91.65	0.00	0.00	92.20
General Light Industry	865540	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	46.19	46.19	0.00	0.00	46.47
Total		**0.01**	**0.12**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**137.84**	**137.84**	**0.00**	**0.00**	**138.67**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	456213					132.70	0.01	0.00	133.53
General Light Industry	287820					83.72	0.00	0.00	84.24
Total						**216.42**	**0.01**	**0.00**	**217.77**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	456213					132.70	0.01	0.00	133.53
General Light Industry	287820					83.72	0.00	0.00	84.24
Total						**216.42**	**0.01**	**0.00**	**217.77**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.91	0.03	2.19	0.00		0.00	0.11		0.00	0.11	10.83	65.00	75.83	0.04	0.00	77.04
Unmitigated	0.91	0.03	2.19	0.00		0.00	0.11		0.00	0.11	10.83	65.00	75.83	0.04	0.00	77.04
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	tons/yr										MT/yr					
Architectural Coating	0.07					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.46					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.34	0.01	0.64	0.00		0.00	0.10		0.00	0.10	10.83	62.46	73.29	0.03	0.00	74.45
Landscaping	0.05	0.02	1.55	0.00		0.00	0.01		0.00	0.01	0.00	2.54	2.54	0.00	0.00	2.59
Total	**0.92**	**0.03**	**2.19**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**10.83**	**65.00**	**75.83**	**0.03**	**0.00**	**77.04**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.07					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.46					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.34	0.01	0.64	0.00		0.00	0.10		0.00	0.10	10.83	62.46	73.29	0.03	0.00	74.45
Landscaping	0.05	0.02	1.55	0.00		0.00	0.01		0.00	0.01	0.00	2.54	2.54	0.00	0.00	2.59
Total	**0.92**	**0.03**	**2.19**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**10.83**	**65.00**	**75.83**	**0.03**	**0.00**	**77.04**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					524.40	4.13	0.11	645.45
Unmitigated					524.40	4.13	0.11	645.45
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	6.64571 / 4.18969					38.78	0.20	0.01	44.85
General Light Industry	127.84 / 0					485.62	3.92	0.11	600.60
Total						**524.40**	**4.12**	**0.12**	**645.45**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	6.64571 / 4.18969					38.78	0.20	0.01	44.85
General Light Industry	127.84 / 0					485.62	3.92	0.11	600.60
Total						**524.40**	**4.12**	**0.12**	**645.45**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					316.58	18.71	0.00	709.47
Unmitigated					316.58	18.71	0.00	709.47
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	46.92					9.52	0.56	0.00	21.34
General Light Industry	1512.65					307.05	18.15	0.00	688.13
Total						**316.57**	**18.71**	**0.00**	**709.47**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	46.92					9.52	0.56	0.00	21.34
General Light Industry	1512.65					307.05	18.15	0.00	688.13
Total						**316.57**	**18.71**	**0.00**	**709.47**

9.0 Vegetation

Waterman Gardens - Construction Phase 4A

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.21	1.47	1.27	0.00	0.31	0.07	0.38	0.11	0.07	0.18	0.00	244.09	244.09	0.02	0.00	244.45
2021	0.40	1.19	1.46	0.00	0.04	0.06	0.10	0.00	0.06	0.06	0.00	252.61	252.61	0.02	0.00	252.94
Total	**0.61**	**2.66**	**2.73**	**0.00**	**0.35**	**0.13**	**0.48**	**0.11**	**0.13**	**0.24**	**0.00**	**496.70**	**496.70**	**0.04**	**0.00**	**497.39**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.08	0.25	1.33	0.00	0.18	0.01	0.19	0.04	0.01	0.06	0.00	244.09	244.09	0.02	0.00	244.45
2021	0.33	0.47	1.61	0.00	0.04	0.02	0.07	0.00	0.02	0.02	0.00	252.61	252.61	0.02	0.00	252.94
Total	**0.41**	**0.72**	**2.94**	**0.00**	**0.22**	**0.03**	**0.26**	**0.04**	**0.03**	**0.08**	**0.00**	**496.70**	**496.70**	**0.04**	**0.00**	**497.39**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.41	0.01	1.14	0.00		0.00	0.06		0.00	0.06	5.63	33.77	39.40	0.02	0.00	40.03
Energy	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	116.57	116.57	0.00	0.00	117.29
Mobile	0.23	0.63	2.02	0.01	0.63	0.03	0.66	0.01	0.03	0.04	0.00	480.15	480.15	0.02	0.00	480.48
Waste						0.00	0.00		0.00	0.00	4.95	0.00	4.95	0.29	0.00	11.09
Water						0.00	0.00		0.00	0.00	0.00	20.15	20.15	0.11	0.00	23.30
Total	**0.64**	**0.68**	**3.18**	**0.01**	**0.63**	**0.03**	**0.72**	**0.01**	**0.03**	**0.10**	**10.58**	**650.64**	**661.22**	**0.44**	**0.00**	**672.19**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.41	0.01	1.14	0.00		0.00	0.06		0.00	0.06	5.63	33.77	39.40	0.02	0.00	40.03
Energy	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	116.57	116.57	0.00	0.00	117.29
Mobile	0.23	0.63	2.02	0.01	0.63	0.03	0.66	0.01	0.03	0.04	0.00	480.15	480.15	0.02	0.00	480.48
Waste						0.00	0.00		0.00	0.00	4.95	0.00	4.95	0.29	0.00	11.09
Water						0.00	0.00		0.00	0.00	0.00	20.15	20.15	0.11	0.00	23.30
Total	**0.64**	**0.68**	**3.18**	**0.01**	**0.63**	**0.03**	**0.72**	**0.01**	**0.03**	**0.10**	**10.58**	**650.64**	**661.22**	**0.44**	**0.00**	**672.19**

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	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.75	0.63	0.00		0.03	0.03		0.03	0.03	0.00	118.11	118.11	0.01	0.00	118.29
Total	**0.10**	**0.75**	**0.63**	**0.00**	**0.01**	**0.03**	**0.04**	**0.00**	**0.03**	**0.03**	**0.00**	**118.11**	**118.11**	**0.01**	**0.00**	**118.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.09	0.00	0.09	0.00	0.00	0.00	0.00	4.71	4.71	0.00	0.00	4.71
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.80	3.80	0.00	0.00	3.80
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**8.51**	**8.51**	**0.00**	**0.00**	**8.51**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.17	0.66	0.00		0.01	0.01		0.01	0.01	0.00	118.11	118.11	0.01	0.00	118.29
Total	**0.04**	**0.17**	**0.66**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**118.11**	**118.11**	**0.01**	**0.00**	**118.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.02	0.01	0.00	0.09	0.00	0.09	0.00	0.00	0.00	0.00	4.71	4.71	0.00	0.00	4.71
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.80	3.80	0.00	0.00	3.80
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.10**	**0.00**	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**	**8.51**	**8.51**	**0.00**	**0.00**	**8.51**

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	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.71	0.59	0.00		0.03	0.03		0.03	0.03	0.00	114.56	114.56	0.01	0.00	114.73
Total	**0.10**	**0.71**	**0.59**	**0.00**	**0.20**	**0.03**	**0.23**	**0.11**	**0.03**	**0.14**	**0.00**	**114.56**	**114.56**	**0.01**	**0.00**	**114.73**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.92	2.92	0.00	0.00	2.92
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.92**	**2.92**	**0.00**	**0.00**	**2.92**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.07	0.64	0.00		0.00	0.00		0.00	0.00	0.00	114.56	114.56	0.01	0.00	114.73
Total	**0.03**	**0.07**	**0.64**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**114.56**	**114.56**	**0.01**	**0.00**	**114.73**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.92	2.92	0.00	0.00	2.92
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.92**	**2.92**	**0.00**	**0.00**	**2.92**

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	tons/yr										MT/yr					
Off-Road	0.16	0.94	1.12	0.00		0.04	0.04		0.04	0.04	0.00	189.13	189.13	0.01	0.00	189.39
Total	**0.16**	**0.94**	**1.12**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**189.13**	**189.13**	**0.01**	**0.00**	**189.39**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.73	9.73	0.00	0.00	9.73
Worker	0.01	0.01	0.09	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	21.44	21.44	0.00	0.00	21.46
Total	**0.01**	**0.04**	**0.11**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**31.17**	**31.17**	**0.00**	**0.00**	**31.19**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.38	1.28	0.00		0.02	0.02		0.02	0.02	0.00	189.13	189.13	0.01	0.00	189.39
Total	**0.10**	**0.38**	**1.28**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**189.13**	**189.13**	**0.01**	**0.00**	**189.39**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.73	9.73	0.00	0.00	9.73
Worker	0.01	0.01	0.09	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	21.44	21.44	0.00	0.00	21.46
Total	**0.01**	**0.04**	**0.11**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**31.17**	**31.17**	**0.00**	**0.00**	**31.19**

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	tons/yr										MT/yr					
Archit. Coating	0.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.48	5.48	0.00	0.00	5.49
Total	**0.20**	**0.03**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.48**	**5.48**	**0.00**	**0.00**	**5.49**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.50	0.00	0.00	1.51
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**1.50**	**0.00**	**0.00**	**1.51**

3.5 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.20					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.04	0.00		0.00	0.00		0.00	0.00	0.00	5.48	5.48	0.00	0.00	5.49
Total	**0.20**	**0.03**	**0.04**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**5.48**	**5.48**	**0.00**	**0.00**	**5.49**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.50	0.00	0.00	1.51
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**1.50**	**0.00**	**0.00**	**1.51**

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	tons/yr										MT/yr					
Off-Road	0.03	0.17	0.18	0.00		0.01	0.01		0.01	0.01	0.00	23.88	23.88	0.00	0.00	23.92
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.17**	**0.18**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**23.88**	**23.88**	**0.00**	**0.00**	**23.92**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	1.44	0.00	0.00	1.44
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.44**	**1.44**	**0.00**	**0.00**	**1.44**

3.6 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.02	0.17	0.00		0.00	0.00		0.00	0.00	0.00	23.88	23.88	0.00	0.00	23.92
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.02**	**0.17**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**23.88**	**23.88**	**0.00**	**0.00**	**23.92**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	1.44	0.00	0.00	1.44
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.44**	**1.44**	**0.00**	**0.00**	**1.44**

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	tons/yr										MT/yr					
Mitigated	0.23	0.63	2.02	0.01	0.63	0.03	0.66	0.01	0.03	0.04	0.00	480.15	480.15	0.02	0.00	480.48
Unmitigated	0.23	0.63	2.02	0.01	0.63	0.03	0.66	0.01	0.03	0.04	0.00	480.15	480.15	0.02	0.00	480.48
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	68.95	68.95	0.00	0.00	69.38
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	68.95	68.95	0.00	0.00	69.38
NaturalGas Mitigated	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	47.62	47.62	0.00	0.00	47.91
NaturalGas Unmitigated	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	47.62	47.62	0.00	0.00	47.91
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	tons/yr										MT/yr					
Apartments Low Rise	892365	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	47.62	47.62	0.00	0.00	47.91
Total		**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**47.62**	**47.62**	**0.00**	**0.00**	**47.91**

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	tons/yr										MT/yr					
Apartments Low Rise	892365	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	47.62	47.62	0.00	0.00	47.91
Total		**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**47.62**	**47.62**	**0.00**	**0.00**	**47.91**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	237052					68.95	0.00	0.00	69.38
Total						**68.95**	**0.00**	**0.00**	**69.38**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	237052					68.95	0.00	0.00	69.38
Total						**68.95**	**0.00**	**0.00**	**69.38**

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	tons/yr										MT/yr					
Mitigated	0.41	0.01	1.14	0.00		0.00	0.06		0.00	0.06	5.63	33.77	39.40	0.02	0.00	40.03
Unmitigated	0.41	0.01	1.14	0.00		0.00	0.06		0.00	0.06	5.63	33.77	39.40	0.02	0.00	40.03
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	tons/yr										MT/yr					
Architectural Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.19					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.18	0.00	0.33	0.00		0.00	0.05		0.00	0.05	5.63	32.45	38.08	0.02	0.00	38.69
Landscaping	0.02	0.01	0.81	0.00		0.00	0.00		0.00	0.00	0.00	1.32	1.32	0.00	0.00	1.34
Total	**0.41**	**0.01**	**1.14**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**	**5.63**	**33.77**	**39.40**	**0.02**	**0.00**	**40.03**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.19					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.18	0.00	0.33	0.00		0.00	0.05		0.00	0.05	5.63	32.45	38.08	0.02	0.00	38.69
Landscaping	0.02	0.01	0.81	0.00		0.00	0.00		0.00	0.00	0.00	1.32	1.32	0.00	0.00	1.34
Total	**0.41**	**0.01**	**1.14**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**	**5.63**	**33.77**	**39.40**	**0.02**	**0.00**	**40.03**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					20.15	0.11	0.00	23.30
Unmitigated					20.15	0.11	0.00	23.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	3.45316 / 2.17699					20.15	0.11	0.00	23.30
Total						**20.15**	**0.11**	**0.00**	**23.30**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	3.45316 / 2.17699					20.15	0.11	0.00	23.30
Total						**20.15**	**0.11**	**0.00**	**23.30**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					4.95	0.29	0.00	11.09
Unmitigated					4.95	0.29	0.00	11.09
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	24.38					4.95	0.29	0.00	11.09
Total						**4.95**	**0.29**	**0.00**	**11.09**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	24.38					4.95	0.29	0.00	11.09
Total						**4.95**	**0.29**	**0.00**	**11.09**

9.0 Vegetation

Waterman Gardens - Construction Phase 4B

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.40	2.60	2.84	0.01	0.52	0.12	0.63	0.12	0.11	0.23	0.00	545.62	545.62	0.03	0.00	546.30
2022	0.65	1.99	2.91	0.01	0.10	0.10	0.20	0.00	0.10	0.10	0.00	503.99	503.99	0.03	0.00	504.56
Total	**1.05**	**4.59**	**5.75**	**0.02**	**0.62**	**0.22**	**0.83**	**0.12**	**0.21**	**0.33**	**0.00**	**1,049.61**	**1,049.61**	**0.06**	**0.00**	**1,050.86**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.17	0.50	3.12	0.01	0.37	0.03	0.40	0.05	0.03	0.07	0.00	545.62	545.62	0.03	0.00	546.30
2022	0.50	0.51	3.15	0.01	0.10	0.03	0.12	0.00	0.03	0.03	0.00	503.99	503.99	0.03	0.00	504.56
Total	**0.67**	**1.01**	**6.27**	**0.02**	**0.47**	**0.06**	**0.52**	**0.05**	**0.06**	**0.10**	**0.00**	**1,049.61**	**1,049.61**	**0.06**	**0.00**	**1,050.86**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.64	0.02	1.79	0.00		0.00	0.09		0.00	0.09	8.82	52.89	61.71	0.03	0.00	62.69
Energy	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	182.56	182.56	0.01	0.00	183.69
Mobile	0.36	0.99	3.16	0.01	0.99	0.05	1.03	0.02	0.04	0.06	0.00	751.93	751.93	0.02	0.00	752.45
Waste						0.00	0.00		0.00	0.00	7.75	0.00	7.75	0.46	0.00	17.37
Water						0.00	0.00		0.00	0.00	0.00	31.56	31.56	0.17	0.00	36.49
Total	**1.01**	**1.07**	**4.98**	**0.01**	**0.99**	**0.05**	**1.13**	**0.02**	**0.04**	**0.16**	**16.57**	**1,018.94**	**1,035.51**	**0.69**	**0.00**	**1,052.69**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.64	0.02	1.79	0.00		0.00	0.09		0.00	0.09	8.82	52.89	61.71	0.03	0.00	62.69
Energy	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	182.56	182.56	0.01	0.00	183.69
Mobile	0.36	0.99	3.16	0.01	0.99	0.05	1.03	0.02	0.04	0.06	0.00	751.93	751.93	0.02	0.00	752.45
Waste						0.00	0.00		0.00	0.00	7.75	0.00	7.75	0.46	0.00	17.37
Water						0.00	0.00		0.00	0.00	0.00	31.56	31.56	0.17	0.00	36.49
Total	**1.01**	**1.07**	**4.98**	**0.01**	**0.99**	**0.05**	**1.13**	**0.02**	**0.04**	**0.16**	**16.57**	**1,018.94**	**1,035.51**	**0.69**	**0.00**	**1,052.69**

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	tons/yr										MT/yr					
Fugitive Dust					0.04	0.00	0.04	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.17	1.09	0.00		0.05	0.05		0.05	0.05	0.00	221.38	221.38	0.01	0.00	221.68
Total	**0.18**	**1.17**	**1.09**	**0.00**	**0.04**	**0.05**	**0.09**	**0.01**	**0.05**	**0.06**	**0.00**	**221.38**	**221.38**	**0.01**	**0.00**	**221.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.23	0.00	0.24	0.00	0.00	0.00	0.00	13.10	13.10	0.00	0.00	13.10
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.26	4.26	0.00	0.00	4.27
Total	**0.00**	**0.04**	**0.04**	**0.00**	**0.24**	**0.00**	**0.25**	**0.00**	**0.00**	**0.00**	**0.00**	**17.36**	**17.36**	**0.00**	**0.00**	**17.37**

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.07	0.22	1.22	0.00		0.01	0.01		0.01	0.01	0.00	221.38	221.38	0.01	0.00	221.68
Total	**0.07**	**0.22**	**1.22**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**221.38**	**221.38**	**0.01**	**0.00**	**221.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.04	0.02	0.00	0.23	0.00	0.24	0.00	0.00	0.00	0.00	13.10	13.10	0.00	0.00	13.10
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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.26	4.26	0.00	0.00	4.27
Total	**0.00**	**0.04**	**0.04**	**0.00**	**0.24**	**0.00**	**0.25**	**0.00**	**0.00**	**0.00**	**0.00**	**17.36**	**17.36**	**0.00**	**0.00**	**17.37**

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	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.12	0.81	0.87	0.00		0.04	0.04		0.04	0.04	0.00	156.83	156.83	0.01	0.00	157.04
Total	**0.12**	**0.81**	**0.87**	**0.00**	**0.20**	**0.04**	**0.24**	**0.11**	**0.04**	**0.15**	**0.00**	**156.83**	**156.83**	**0.01**	**0.00**	**157.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.33	4.33	0.00	0.00	4.33
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.33**	**4.33**	**0.00**	**0.00**	**4.33**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.09	0.94	0.00		0.00	0.00		0.00	0.00	0.00	156.83	156.83	0.01	0.00	157.04
Total	**0.04**	**0.09**	**0.94**	**0.00**	**0.08**	**0.00**	**0.08**	**0.04**	**0.00**	**0.04**	**0.00**	**156.83**	**156.83**	**0.01**	**0.00**	**157.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.33	4.33	0.00	0.00	4.33
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.33**	**4.33**	**0.00**	**0.00**	**4.33**

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	tons/yr										MT/yr					
Off-Road	0.08	0.53	0.73	0.00		0.02	0.02		0.02	0.02	0.00	120.93	120.93	0.01	0.00	121.07
Total	**0.08**	**0.53**	**0.73**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.07**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.47	7.47	0.00	0.00	7.47
Worker	0.01	0.01	0.07	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	17.32	17.32	0.00	0.00	17.33
Total	**0.01**	**0.04**	**0.09**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**24.79**	**24.79**	**0.00**	**0.00**	**24.80**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.04	0.12	0.81	0.00		0.01	0.01		0.01	0.01	0.00	120.93	120.93	0.01	0.00	121.07
Total	**0.04**	**0.12**	**0.81**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**120.93**	**120.93**	**0.01**	**0.00**	**121.07**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.47	7.47	0.00	0.00	7.47
Worker	0.01	0.01	0.07	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	17.32	17.32	0.00	0.00	17.33
Total	**0.01**	**0.04**	**0.09**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**24.79**	**24.79**	**0.00**	**0.00**	**24.80**

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	tons/yr										MT/yr					
Off-Road	0.23	1.42	2.15	0.00		0.06	0.06		0.06	0.06	0.00	357.30	357.30	0.02	0.00	357.69
Total	**0.23**	**1.42**	**2.15**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**357.30**	**357.30**	**0.02**	**0.00**	**357.69**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.07	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	22.08	22.08	0.00	0.00	22.08
Worker	0.02	0.02	0.19	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.00	50.35	50.35	0.00	0.00	50.39
Total	**0.03**	**0.09**	**0.24**	**0.00**	**0.09**	**0.00**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**72.43**	**72.43**	**0.00**	**0.00**	**72.47**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.34	2.40	0.00		0.02	0.02		0.02	0.02	0.00	357.30	357.30	0.02	0.00	357.69
Total	**0.13**	**0.34**	**2.40**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**357.30**	**357.30**	**0.02**	**0.00**	**357.69**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.01	0.07	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	22.08	22.08	0.00	0.00	22.08
Worker	0.02	0.02	0.19	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.00	50.35	50.35	0.00	0.00	50.39
Total	**0.03**	**0.09**	**0.24**	**0.00**	**0.09**	**0.00**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**72.43**	**72.43**	**0.00**	**0.00**	**72.47**

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	tons/yr										MT/yr					
Archit. Coating	0.32					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.42	8.42	0.00	0.00	8.43
Total	**0.33**	**0.05**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.42**	**8.42**	**0.00**	**0.00**	**8.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

3.5 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.32					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.06	0.00		0.00	0.00		0.00	0.00	0.00	8.42	8.42	0.00	0.00	8.43
Total	**0.33**	**0.05**	**0.06**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**8.42**	**8.42**	**0.00**	**0.00**	**8.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

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	tons/yr										MT/yr					
Off-Road	0.07	0.43	0.44	0.00		0.03	0.03		0.03	0.03	0.00	59.54	59.54	0.01	0.00	59.65
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.07**	**0.43**	**0.44**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**59.54**	**59.54**	**0.01**	**0.00**	**59.65**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	2.90	0.00	0.00	2.91
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.90**	**2.90**	**0.00**	**0.00**	**2.91**

3.6 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.03	0.43	0.00		0.00	0.00		0.00	0.00	0.00	59.54	59.54	0.01	0.00	59.65
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.03**	**0.43**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**59.54**	**59.54**	**0.01**	**0.00**	**59.65**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	2.90	0.00	0.00	2.91
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.90**	**2.90**	**0.00**	**0.00**	**2.91**

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	tons/yr										MT/yr					
Mitigated	0.36	0.99	3.16	0.01	0.99	0.05	1.03	0.02	0.04	0.06	0.00	751.93	751.93	0.02	0.00	752.45
Unmitigated	0.36	0.99	3.16	0.01	0.99	0.05	1.03	0.02	0.04	0.06	0.00	751.93	751.93	0.02	0.00	752.45
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	107.98	107.98	0.00	0.00	108.66
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	107.98	107.98	0.00	0.00	108.66
NaturalGas Mitigated	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	74.57	74.57	0.00	0.00	75.03
NaturalGas Unmitigated	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	74.57	74.57	0.00	0.00	75.03
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	tons/yr										MT/yr					
Apartments Low Rise	1.39748e+006	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	74.57	74.57	0.00	0.00	75.03
Total		**0.01**	**0.06**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**74.57**	**74.57**	**0.00**	**0.00**	**75.03**

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	tons/yr										MT/yr					
Apartments Low Rise	1.39748e+006	0.01	0.06	0.03	0.00		0.00	0.01		0.00	0.01	0.00	74.57	74.57	0.00	0.00	75.03
Total		**0.01**	**0.06**	**0.03**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**74.57**	**74.57**	**0.00**	**0.00**	**75.03**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	371232					107.98	0.00	0.00	108.66
Total						**107.98**	**0.00**	**0.00**	**108.66**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	371232					107.98	0.00	0.00	108.66
Total						**107.98**	**0.00**	**0.00**	**108.66**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.64	0.02	1.79	0.00		0.00	0.09		0.00	0.09	8.82	52.89	61.71	0.03	0.00	62.69
Unmitigated	0.64	0.02	1.79	0.00		0.00	0.09		0.00	0.09	8.82	52.89	61.71	0.03	0.00	62.69
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	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.28	0.01	0.52	0.00		0.00	0.08		0.00	0.08	8.82	50.83	59.64	0.03	0.00	60.59
Landscaping	0.04	0.01	1.26	0.00		0.00	0.01		0.00	0.01	0.00	2.06	2.06	0.00	0.00	2.11
Total	**0.64**	**0.02**	**1.78**	**0.00**		**0.00**	**0.09**		**0.00**	**0.09**	**8.82**	**52.89**	**61.70**	**0.03**	**0.00**	**62.70**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.03					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.28	0.01	0.52	0.00		0.00	0.08		0.00	0.08	8.82	50.83	59.64	0.03	0.00	60.59
Landscaping	0.04	0.01	1.26	0.00		0.00	0.01		0.00	0.01	0.00	2.06	2.06	0.00	0.00	2.11
Total	**0.64**	**0.02**	**1.78**	**0.00**		**0.00**	**0.09**		**0.00**	**0.09**	**8.82**	**52.89**	**61.70**	**0.03**	**0.00**	**62.70**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					31.56	0.17	0.00	36.49
Unmitigated					31.56	0.17	0.00	36.49
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	5.40778 / 3.40926					31.56	0.17	0.00	36.49
Total						**31.56**	**0.17**	**0.00**	**36.49**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	5.40778 / 3.40926					31.56	0.17	0.00	36.49
Total						**31.56**	**0.17**	**0.00**	**36.49**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					7.75	0.46	0.00	17.37
Unmitigated					7.75	0.46	0.00	17.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	38.18					7.75	0.46	0.00	17.37
Total						**7.75**	**0.46**	**0.00**	**17.37**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	38.18					7.75	0.46	0.00	17.37
Total						**7.75**	**0.46**	**0.00**	**17.37**

9.0 Vegetation

APPENDIX B

Existing Operational Greenhouse Gas Emissions Calculations

Waterman Gardens - Existing

San Bernardino-South Coast County, Annual

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

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.25	2.06	1.21	0.00	0.13	0.11	0.23	0.00	0.11	0.11	0.00	181.36	181.36	0.02	0.00	181.79
Total	**0.25**	**2.06**	**1.21**	**0.00**	**0.13**	**0.11**	**0.23**	**0.00**	**0.11**	**0.11**	**0.00**	**181.36**	**181.36**	**0.02**	**0.00**	**181.79**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.25	2.06	1.21	0.00	0.11	0.11	0.22	0.00	0.11	0.11	0.00	181.36	181.36	0.02	0.00	181.79
Total	**0.25**	**2.06**	**1.21**	**0.00**	**0.11**	**0.11**	**0.22**	**0.00**	**0.11**	**0.11**	**0.00**	**181.36**	**181.36**	**0.02**	**0.00**	**181.79**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.99	0.07	5.62	0.00		0.00	0.27		0.00	0.27	26.77	160.58	187.35	0.09	0.00	190.37
Energy	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	554.26	554.26	0.02	0.01	557.70
Mobile	3.35	9.89	34.32	0.04	4.68	0.36	5.04	0.18	0.36	0.54	0.00	4,397.34	4,397.34	0.25	0.00	4,402.49
Waste						0.00	0.00		0.00	0.00	23.53	0.00	23.53	1.39	0.00	52.73
Water						0.00	0.00		0.00	0.00	0.00	95.82	95.82	0.51	0.01	110.80
Total	**5.36**	**10.16**	**40.02**	**0.04**	**4.68**	**0.36**	**5.33**	**0.18**	**0.36**	**0.83**	**50.30**	**5,208.00**	**5,258.30**	**2.26**	**0.02**	**5,314.09**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.99	0.07	5.62	0.00		0.00	0.27		0.00	0.27	26.77	160.58	187.35	0.09	0.00	190.37
Energy	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	554.26	554.26	0.02	0.01	557.70
Mobile	3.35	9.89	34.32	0.04	4.68	0.36	5.04	0.18	0.36	0.54	0.00	4,397.34	4,397.34	0.25	0.00	4,402.49
Waste						0.00	0.00		0.00	0.00	23.53	0.00	23.53	1.39	0.00	52.73
Water						0.00	0.00		0.00	0.00	0.00	95.82	95.82	0.51	0.01	110.80
Total	**5.36**	**10.16**	**40.02**	**0.04**	**4.68**	**0.36**	**5.33**	**0.18**	**0.36**	**0.83**	**50.30**	**5,208.00**	**5,258.30**	**2.26**	**0.02**	**5,314.09**

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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.00	1.15	0.00		0.10	0.10		0.10	0.10	0.00	170.30	170.30	0.02	0.00	170.72
Total	**0.25**	**2.00**	**1.15**	**0.00**	**0.02**	**0.10**	**0.12**	**0.00**	**0.10**	**0.10**	**0.00**	**170.30**	**170.30**	**0.02**	**0.00**	**170.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.06	0.03	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	7.08	7.08	0.00	0.00	7.08
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.99	3.99	0.00	0.00	3.99
Total	**0.01**	**0.06**	**0.06**	**0.00**	**0.11**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**11.07**	**11.07**	**0.00**	**0.00**	**11.07**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.00	1.15	0.00		0.10	0.10		0.10	0.10	0.00	170.30	170.30	0.02	0.00	170.72
Total	**0.25**	**2.00**	**1.15**	**0.00**	**0.01**	**0.10**	**0.11**	**0.00**	**0.10**	**0.10**	**0.00**	**170.30**	**170.30**	**0.02**	**0.00**	**170.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.06	0.03	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	7.08	7.08	0.00	0.00	7.08
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.99	3.99	0.00	0.00	3.99
Total	**0.01**	**0.06**	**0.06**	**0.00**	**0.11**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**11.07**	**11.07**	**0.00**	**0.00**	**11.07**

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	tons/yr										MT/yr					
Mitigated	3.35	9.89	34.32	0.04	4.68	0.36	5.04	0.18	0.36	0.54	0.00	4,397.34	4,397.34	0.25	0.00	4,402.49
Unmitigated	3.35	9.89	34.32	0.04	4.68	0.36	5.04	0.18	0.36	0.54	0.00	4,397.34	4,397.34	0.25	0.00	4,402.49
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	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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	327.84	327.84	0.01	0.01	329.90
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	327.84	327.84	0.01	0.01	329.90
NaturalGas Mitigated	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	226.42	226.42	0.00	0.00	227.80
NaturalGas Unmitigated	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	226.42	226.42	0.00	0.00	227.80
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	tons/yr										MT/yr					
Apartments Low Rise	4.24294e+006	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	226.42	226.42	0.00	0.00	227.80
Total		**0.02**	**0.20**	**0.08**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**226.42**	**226.42**	**0.00**	**0.00**	**227.80**

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	tons/yr										MT/yr					
Apartments Low Rise	4.24294e+006	0.02	0.20	0.08	0.00		0.00	0.02		0.00	0.02	0.00	226.42	226.42	0.00	0.00	227.80
Total		**0.02**	**0.20**	**0.08**	**0.00**		**0.00**	**0.02**		**0.00**	**0.02**	**0.00**	**226.42**	**226.42**	**0.00**	**0.00**	**227.80**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.12712e+006					327.84	0.01	0.01	329.90
Total						**327.84**	**0.01**	**0.01**	**329.90**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.12712e+006					327.84	0.01	0.01	329.90
Total						**327.84**	**0.01**	**0.01**	**329.90**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.99	0.07	5.62	0.00		0.00	0.27		0.00	0.27	26.77	160.58	187.35	0.09	0.00	190.37
Unmitigated	1.99	0.07	5.62	0.00		0.00	0.27		0.00	0.27	26.77	160.58	187.35	0.09	0.00	190.37
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	tons/yr										MT/yr					
Architectural Coating	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.91					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.84	0.02	1.58	0.00		0.00	0.25		0.00	0.25	26.77	154.31	181.08	0.08	0.00	183.94
Landscaping	0.14	0.05	4.04	0.00		0.00	0.02		0.00	0.02	0.00	6.27	6.27	0.01	0.00	6.42
Total	**1.99**	**0.07**	**5.62**	**0.00**		**0.00**	**0.27**		**0.00**	**0.27**	**26.77**	**160.58**	**187.35**	**0.09**	**0.00**	**190.36**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.10					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.91					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.84	0.02	1.58	0.00		0.00	0.25		0.00	0.25	26.77	154.31	181.08	0.08	0.00	183.94
Landscaping	0.14	0.05	4.04	0.00		0.00	0.02		0.00	0.02	0.00	6.27	6.27	0.01	0.00	6.42
Total	**1.99**	**0.07**	**5.62**	**0.00**		**0.00**	**0.27**		**0.00**	**0.27**	**26.77**	**160.58**	**187.35**	**0.09**	**0.00**	**190.36**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					95.82	0.51	0.01	110.80
Unmitigated					95.82	0.51	0.01	110.80
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	16.4188 / 10.351					95.82	0.51	0.01	110.80
Total						**95.82**	**0.51**	**0.01**	**110.80**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	16.4188 / 10.351					95.82	0.51	0.01	110.80
Total						**95.82**	**0.51**	**0.01**	**110.80**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					23.53	1.39	0.00	52.73
Unmitigated					23.53	1.39	0.00	52.73
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	115.92					23.53	1.39	0.00	52.73
Total						**23.53**	**1.39**	**0.00**	**52.73**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	115.92					23.53	1.39	0.00	52.73
Total						**23.53**	**1.39**	**0.00**	**52.73**

9.0 Vegetation

APPENDIX C

Project Operational Greenhouse Gas Emissions Calculations

Waterman Gardens - Operational

San Bernardino-South Coast County, Annual

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.

Mobile Land Use Mitigation - Traffic Mitigation: 13 DU/acre; transit accesibility (0.5 miles to transit station); below market rate housing (250 units); improved pedestrian network; traffic calming measures.

Waste Mitigation - On-site recycling program.

Solid Waste - Youth Center solid waste recalculated based on Office solid waste rate.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.25	2.06	1.21	0.00	0.13	0.11	0.23	0.00	0.11	0.11	0.00	181.36	181.36	0.02	0.00	181.79
Total	**0.25**	**2.06**	**1.21**	**0.00**	**0.13**	**0.11**	**0.23**	**0.00**	**0.11**	**0.11**	**0.00**	**181.36**	**181.36**	**0.02**	**0.00**	**181.79**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.25	2.06	1.21	0.00	0.11	0.11	0.22	0.00	0.11	0.11	0.00	181.36	181.36	0.02	0.00	181.79
Total	**0.25**	**2.06**	**1.21**	**0.00**	**0.11**	**0.11**	**0.22**	**0.00**	**0.11**	**0.11**	**0.00**	**181.36**	**181.36**	**0.02**	**0.00**	**181.79**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.88	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
Energy	0.07	0.64	0.40	0.00		0.00	0.05		0.00	0.05	0.00	1,833.41	1,833.41	0.06	0.03	1,844.77
Mobile	2.98	8.08	25.67	0.08	7.92	0.37	8.30	0.13	0.36	0.48	0.00	6,041.91	6,041.91	0.20	0.00	6,046.08
Waste						0.00	0.00		0.00	0.00	174.19	0.00	174.19	10.29	0.00	390.38
Water						0.00	0.00		0.00	0.00	0.00	723.61	723.61	5.18	0.14	875.86
Total	**5.93**	**8.81**	**33.68**	**0.08**	**7.92**	**0.37**	**8.39**	**0.13**	**0.36**	**0.57**	**174.19**	**8,611.37**	**8,785.56**	**15.74**	**0.17**	**9,169.78**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.88	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
Energy	0.06	0.57	0.36	0.00		0.00	0.04		0.00	0.04	0.00	1,712.39	1,712.39	0.06	0.03	1,723.00
Mobile	2.74	7.48	23.30	0.07	6.99	0.33	7.32	0.11	0.32	0.43	0.00	5,353.78	5,353.78	0.18	0.00	5,357.52
Waste						0.00	0.00		0.00	0.00	87.10	0.00	87.10	5.15	0.00	195.19
Water						0.00	0.00		0.00	0.00	0.00	595.44	595.44	4.15	0.11	717.35
Total	**5.68**	**8.14**	**31.27**	**0.07**	**6.99**	**0.33**	**7.40**	**0.11**	**0.32**	**0.51**	**87.10**	**7,674.05**	**7,761.15**	**9.55**	**0.14**	**8,005.75**

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	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.00	1.15	0.00		0.10	0.10		0.10	0.10	0.00	170.30	170.30	0.02	0.00	170.72
Total	**0.25**	**2.00**	**1.15**	**0.00**	**0.02**	**0.10**	**0.12**	**0.00**	**0.10**	**0.10**	**0.00**	**170.30**	**170.30**	**0.02**	**0.00**	**170.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.06	0.03	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	7.08	7.08	0.00	0.00	7.08
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.99	3.99	0.00	0.00	3.99
Total	**0.01**	**0.06**	**0.06**	**0.00**	**0.11**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**11.07**	**11.07**	**0.00**	**0.00**	**11.07**

3.2 Demolition - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.00	1.15	0.00		0.10	0.10		0.10	0.10	0.00	170.30	170.30	0.02	0.00	170.72
Total	**0.25**	**2.00**	**1.15**	**0.00**	**0.01**	**0.10**	**0.11**	**0.00**	**0.10**	**0.10**	**0.00**	**170.30**	**170.30**	**0.02**	**0.00**	**170.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.06	0.03	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00	7.08	7.08	0.00	0.00	7.08
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	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.99	3.99	0.00	0.00	3.99
Total	**0.01**	**0.06**	**0.06**	**0.00**	**0.11**	**0.00**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**	**11.07**	**11.07**	**0.00**	**0.00**	**11.07**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

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	tons/yr										MT/yr					
Mitigated	2.74	7.48	23.30	0.07	6.99	0.33	7.32	0.11	0.32	0.43	0.00	5,353.78	5,353.78	0.18	0.00	5,357.52
Unmitigated	2.98	8.08	25.67	0.08	7.92	0.37	8.30	0.13	0.36	0.48	0.00	6,041.91	6,041.91	0.20	0.00	6,046.08
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	8,341,368
General Light Industry	0.00	0.00	0.00		
General Office Building	136.80	136.80	136.80	436,869	385,319
Racquet Club	1,185.60	1,185.60	1185.60	3,114,590	2,747,069
Retirement Community	485.45	485.45	485.45	1,616,827	1,426,042
Total	4,647.40	4,647.40	4,647.40	14,625,620	12,899,797

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
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	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	1,073.44	1,073.44	0.05	0.02	1,080.17
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	1,116.08	1,116.08	0.05	0.02	1,123.08
NaturalGas Mitigated	0.06	0.57	0.36	0.00		0.00	0.04		0.00	0.04	0.00	638.94	638.94	0.01	0.01	642.83
NaturalGas Unmitigated	0.07	0.64	0.40	0.00		0.00	0.05		0.00	0.05	0.00	717.33	717.33	0.01	0.01	721.69
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	tons/yr										MT/yr					
Apartments Low Rise	7.18943e+006	0.04	0.33	0.14	0.00		0.00	0.03		0.00	0.03	0.00	383.66	383.66	0.01	0.01	385.99
General Light Industry	865540	0.00	0.04	0.04	0.00		0.00	0.00		0.00	0.00	0.00	46.19	46.19	0.00	0.00	46.47
General Office Building	43800	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	2.34	2.34	0.00	0.00	2.35
Racquet Club	3.46216e+006	0.02	0.17	0.14	0.00		0.00	0.01		0.00	0.01	0.00	184.75	184.75	0.00	0.00	185.88
Retirement Community	1.88126e+006	0.01	0.09	0.08	0.00		0.00	0.01		0.00	0.01	0.00	100.39	100.39	0.00	0.00	101.00
Total		**0.07**	**0.63**	**0.40**	**0.00**		**0.00**	**0.05**		**0.00**	**0.05**	**0.00**	**717.33**	**717.33**	**0.01**	**0.01**	**721.69**

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	tons/yr										MT/yr					
Apartments Low Rise	6.28754e+006	0.03	0.29	0.12	0.00		0.00	0.02		0.00	0.02	0.00	335.53	335.53	0.01	0.01	337.57
General Light Industry	802516	0.00	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	42.83	42.83	0.00	0.00	43.09
General Office Building	37230	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	1.99	1.99	0.00	0.00	2.00
Racquet Club	3.21006e+006	0.02	0.16	0.13	0.00		0.00	0.01		0.00	0.01	0.00	171.30	171.30	0.00	0.00	172.34
Retirement Community	1.63602e+006	0.01	0.08	0.07	0.00		0.00	0.01		0.00	0.01	0.00	87.30	87.30	0.00	0.00	87.84
Total		**0.06**	**0.57**	**0.35**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**638.95**	**638.95**	**0.01**	**0.01**	**642.84**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.90983e+006					555.51	0.03	0.01	559.00
General Light Industry	287820					83.72	0.00	0.00	84.24
General Office Building	128280					37.31	0.00	0.00	37.55
Racquet Club	1.15128e+006					334.87	0.02	0.01	336.97
Retirement Community	359831					104.66	0.00	0.00	105.32
Total						**1,116.07**	**0.05**	**0.02**	**1,123.08**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Low Rise	1.83315e+006					533.21	0.02	0.01	536.55
General Light Industry	277329					80.67	0.00	0.00	81.17
General Office Building	121530					35.35	0.00	0.00	35.57
Racquet Club	1.10932e+006					322.67	0.01	0.01	324.69
Retirement Community	349122					101.55	0.00	0.00	102.19
Total						**1,073.45**	**0.03**	**0.02**	**1,080.17**

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	tons/yr										MT/yr					
Mitigated	2.88	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
Unmitigated	2.88	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
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	tons/yr										MT/yr					
Architectural Coating	0.36					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	2.29					0.00	0.00		0.00	0.00	0.00	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	0.00
Landscaping	0.23	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
Total	**2.88**	**0.09**	**7.61**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**12.44**	**12.44**	**0.01**	**0.00**	**12.69**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.36					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	2.29					0.00	0.00		0.00	0.00	0.00	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	0.00
Landscaping	0.23	0.09	7.61	0.00		0.00	0.04		0.00	0.04	0.00	12.44	12.44	0.01	0.00	12.69
Total	**2.88**	**0.09**	**7.61**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**12.44**	**12.44**	**0.01**	**0.00**	**12.69**

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

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					595.44	4.15	0.11	717.35
Unmitigated					723.61	5.18	0.14	875.86
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	27.8208 / 17.5392					162.36	0.86	0.02	187.74
General Light Industry	127.84 / 0					485.62	3.92	0.11	600.60
General Office Building	2.1328 / 1.3072					12.33	0.07	0.00	14.27
Racquet Club	6.15089 / 3.7699					35.55	0.19	0.01	41.16
Retirement Community	4.75624 / 2.9985					27.76	0.15	0.00	32.10
Total						**723.62**	**5.19**	**0.14**	**875.87**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Low Rise	22.2566 / 17.5392					141.22	0.69	0.02	161.60
General Light Industry	102.272 / 0					388.50	3.14	0.08	480.48
General Office Building	1.70624 / 1.3072					10.71	0.05	0.00	12.27
Racquet Club	4.92071 / 3.7699					30.87	0.15	0.00	35.38
Retirement Community	3.805 / 2.9985					24.14	0.12	0.00	27.63
Total						**595.44**	**4.15**	**0.10**	**717.36**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					87.10	5.15	0.00	195.19
Unmitigated					174.19	10.29	0.00	390.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	196.42					39.87	2.36	0.00	89.35
General Light Industry	24.18					4.91	0.29	0.00	11.00
General Office Building	11.16					2.27	0.13	0.00	5.08
Racquet Club	592.8					120.33	7.11	0.00	269.67
Retirement Community	33.58					6.82	0.40	0.00	15.28
Total						**174.20**	**10.29**	**0.00**	**390.38**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Low Rise	98.21					19.94	1.18	0.00	44.68
General Light Industry	12.09					2.45	0.15	0.00	5.50
General Office Building	5.58					1.13	0.07	0.00	2.54
Racquet Club	296.4					60.17	3.56	0.00	134.84
Retirement Community	16.79					3.41	0.20	0.00	7.64
Total						**87.10**	**5.16**	**0.00**	**195.20**

9.0 Vegetation