

GLOBAL CLIMATE CHANGE

Sweetwater Place Residential Development
PDS2014-GPA-14-003, PDS2014-REZ14-003, PDS2014-TM5588,
PDS2014-STP-14-015 County of San Diego, CA

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July 2015

**SDC PDS RCVD 07-24-15
TM5588**

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LIST OF ACRONYMS

Assembly Bill 32 (AB32)

California Air Pollution Control Officers Association's (CAPCOA)

California Air Resource Board (CARB)

Corporate Average Fuel Economy (CAFE)

California Climate Action Registry General Reporting Protocol Version 3.1 (CCARGRPV3.1)

California Energy Commission (CEC)

California Environmental Quality Act (CEQA)

Carbon Dioxide (CO₂)

Cubic Yards (CY)

Environmental Protection Agency (EPA)

Green House Gas (GHG)

International Residential Code (IRC)

Low Carbon Fuel Standard (LCFS)

Methane (CH₄)

Nitrous Oxide (N₂O)

Office of Planning and Research (OPR)

San Diego Air Basin (SDAB)

San Diego Air Pollution Control District (SDAPCD)

San Diego Planning and Development Services (SDPDS)

South Coast Air Quality Management District (SCAQMD)

Senate Bill 97 (SB97)

Sustainable Communities Strategy (SCS)

Vehicle Miles Traveled (VMT)

EXECUTIVE SUMMARY

This analysis has been completed in order to quantify Greenhouse Gas (GHG) emissions from the project and was prepared according to guidelines established within the California Global Warming Solutions Act of 2006 – Assembly Bill 32 (AB32), Senate Bill 97 (SB97), California Environmental Quality Act (CEQA) and the County of San Diego's Guidelines. Greenhouse Gasses analyzed in this study are Carbon Dioxide (CO₂), Methane (CH₄), and Nitrous Oxide (N₂O). To simplify greenhouse gas calculations, both CH₄ and N₂O are converted to equivalent amounts of CO₂ and are identified as CO₂e. The Project proposes the development of a 20 acre lot which was previously used as an agricultural nursery site with 122 condominium style residential and a 1.53-acre park. Grading is proposed to start sometime in the beginning of 2016 with full build out in August of 2017.

The proposed project will emit GHGs directly through the burning of carbon-based fuels such as gasoline and natural gas as well as indirectly through usage of electricity, water and from the anaerobic bacterial breakdown of organic solid waste. The proposed project would generate approximately 1,846.20 Metric Tons of CO₂e each year under an unmitigated scenario, which exceeds CAPCOA 900 Metric Ton per year screening level and would require mitigation to reduce GHG impacts by more than 16% as necessary to reduce impacts to below significance.

Combining mitigation measures such as Advanced Clean Cars, Low Carbon Fuel Standards, Tire Pressure Regulations, Utility renewable portfolio reductions, Increasing building efficiency to 25% above Title 24, 2008, implementing a waste recycling program, reducing water demand through adding low flow fixtures will reduce emissions by 315.27 MT each year or a 17.1% reduction. A reduction of this size would meet and exceed the requirements of the CEQA as well as the County of San Diego's guidelines. Therefore, the project would conform to the goals of AB 32 and would not result in any direct impacts and cumulative impacts would be reduced to a level that is less than significant.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential air quality impacts (if any) that may be created by construction, area or operational emissions (short term or long term) from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant.

1.2 Project Location

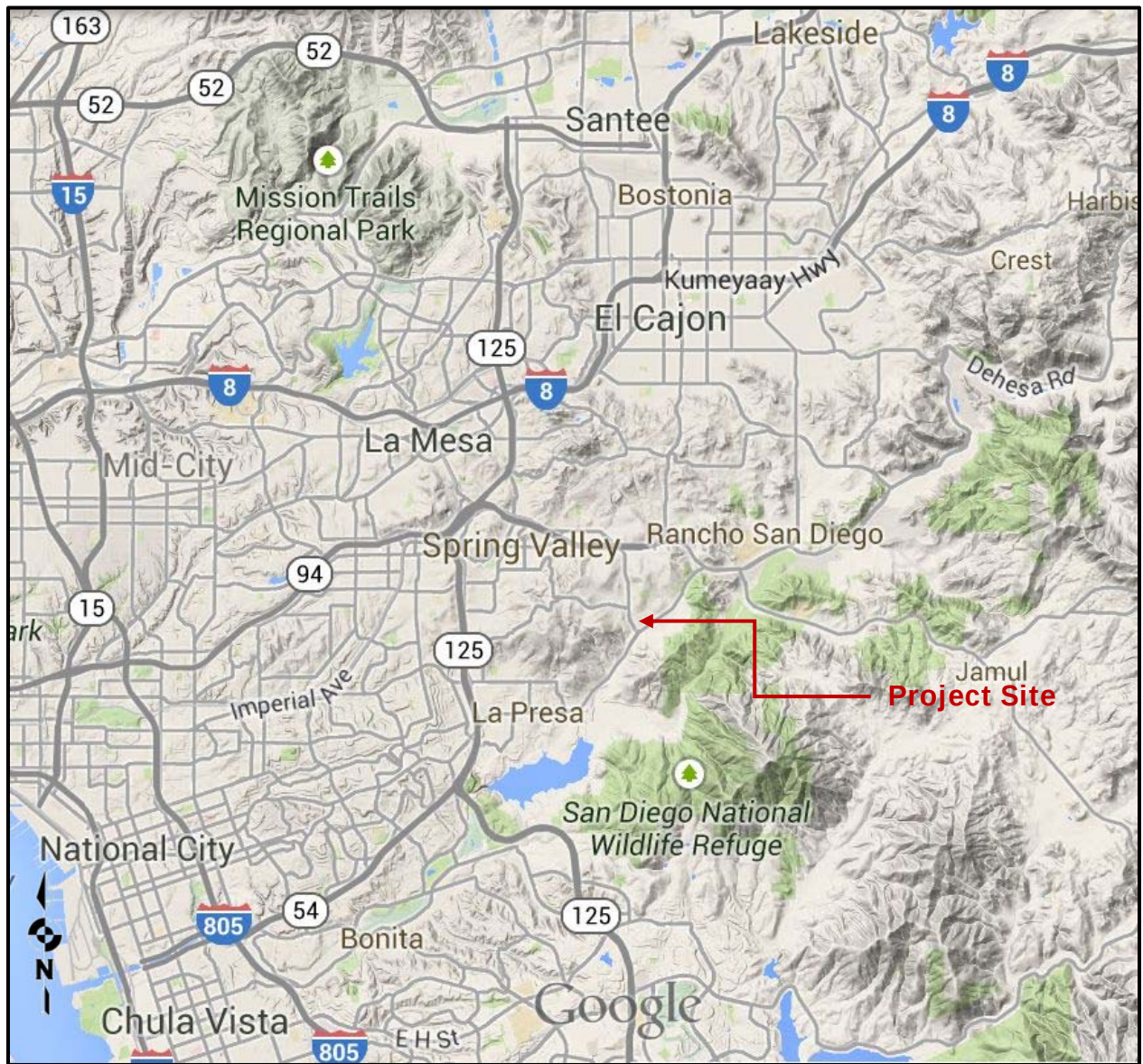
The proposed development is located in the unincorporated County of San Diego. The project site is located on the northeast corner of the Sweetwater Springs Boulevard/Jamacha Boulevard (SR-54) intersection in the County of San Diego. Access to the Project site is will be provided by both Sweetwater Springs Boulevard and by Jamacha Road. A general project vicinity map is shown in Figure 1–A on the following page.

1.3 Project Description

The proposed project seeks the development of a 20 acre lot which was previously used as an agricultural nursery site with 122 condominium style residential and a 1.53-acre park. Grading is proposed to start sometime in 2016 with full build out in August of 2017. A site development plan is shown in Figure 1-B of this report.

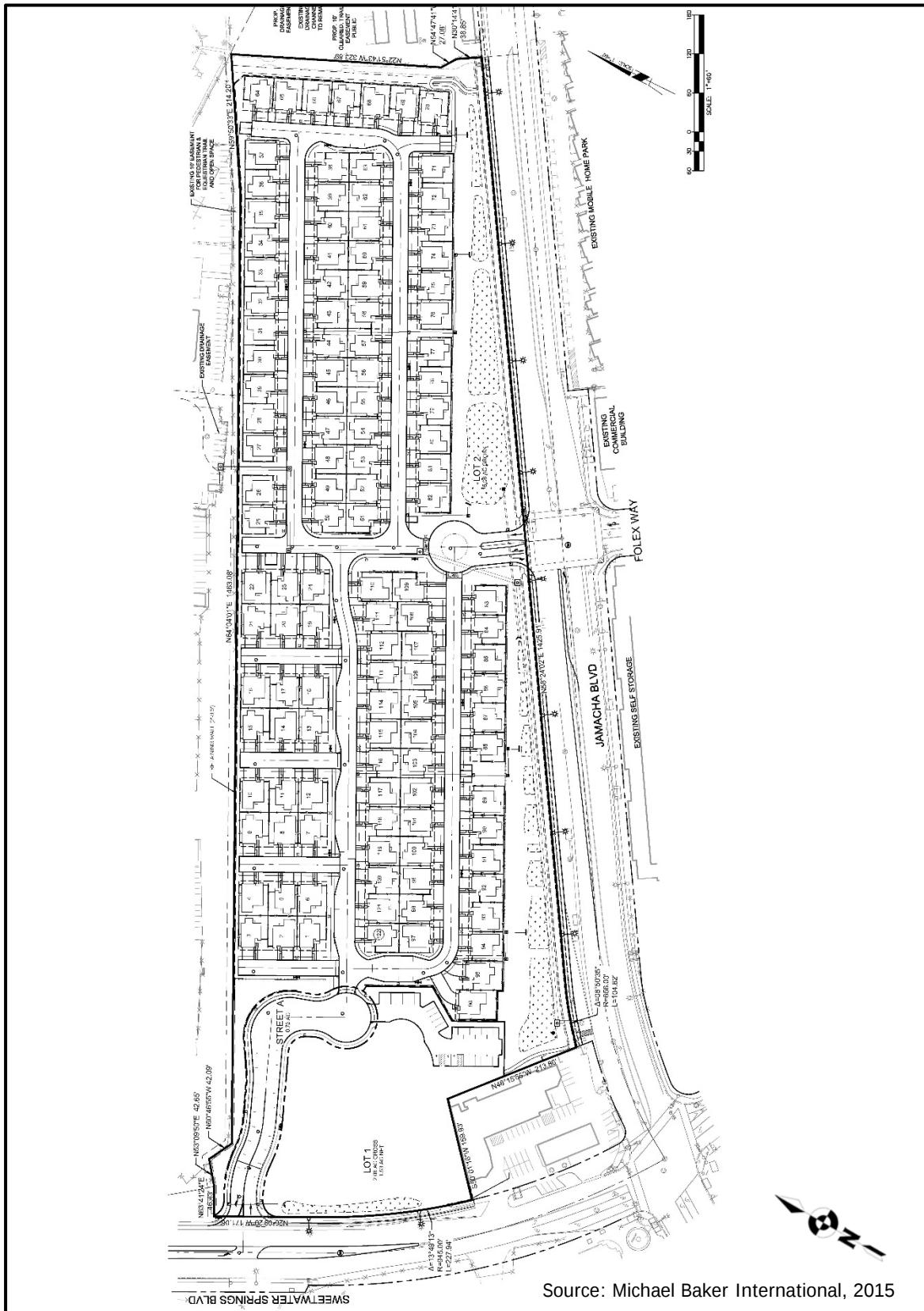
The existing County of San Diego General Plan land use designation is Public/Semi-Public with an underlying land use designation of RL-80 (Rural Lands). A General Plan Amendment (GPA) is required to change the current General Plan designator from RL-80 to a Village Residential (VR-7.3) designator.

Figure 1-A: Project Vicinity Map



Source: Google Maps, 6/14

Figure 1-B: Proposed Project Site Plan



Source: Michael Baker International, 2015

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Understanding Greenhouse Gasses

Greenhouse gases such as water vapor and carbon dioxide are abundant in the earth's atmosphere. These gases are called "Greenhouse Gases" because they absorb and emit thermal infrared radiation which acts like an insulator to the planet. Without these gases, the earth ambient temperature would either be extremely hot during the day or blistering cold at night. However, because these gases can both absorb and emit heat, the earth's temperature does not sway too far in either direction.

Over the years as human activities require the use of burning fossil fuels stored carbon is released into the air in the form of CO₂ and to a much lesser extent CO. Additionally, over the years scientist have measured this rise in Carbon Dioxide and fear that it may be heating the planet too. Additionally, it is thought that other greenhouse gases such as Methane and Nitrous Oxide are to blame.

Greenhouse Gasses of concern as analyzed in this study are CO₂, CH₄, and N₂O. To simplify greenhouse gas calculations, both CH₄ and N₂O can be converted to an equivalent amount of CO₂ or CO₂e. CO₂e is calculated by multiplying the calculated levels of CH₄ and N₂O by a Global Warming Potential (GWP). The U.S. Environmental Protection Agency publishes GWPs for various GHGs and reports that the GWP for CH₄ and N₂O is 21 and 310, respectively.

2.2 Existing Setting

The Project site lies in the southeastern portion of San Diego County approximately 10 miles from east of the City of San Diego. The project site isn't currently being utilized but was historically used as a plant nursery. The plan area is generally represented by a generally flat sloped topography with elevations ranging from 450 feet on the western boundary to 490 feet above mean sea level on the eastern boundary. Land uses to the north east and west are generally commercial with a mobile home residential park to the south of the project site.

2.3 Climate and Meteorology

Climate within the San Diego Air Basin (SDAB) area often varies dramatically over short geographical distances with cooler temperatures on the western coast gradually warming to the east as prevailing winds from the west heat up. Most of southern California is dominated by high-pressure systems for much of the year, which keeps San Diego mostly

sunny and warm. Typically, during the winter months, the high pressure system drops to the south and brings cooler, moister weather from the north. It is common for inversion layers to develop within high-pressure areas, which mostly define pressure patterns over the SDAB. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Meteorological trends within the Spring Valley area generally show daytime highs ranging between 68°F in the winter to approximately 85°F in the summer with August usually being the hottest month. Median temperatures range from approximately 56°F in the winter to approximately 75°F in the summer. The average humidity is approximately 65% in the winter and about 74% in the summer (City-Data, 2015).

3.0 CLIMATE CHANGE REGULATORY ENVIRONMENT

3.1 Regulatory Standards (Assembly Bill 32)

The Global Warming Solutions Act of 2006 also referred to as AB 32, requires that by 2020 the state's greenhouse gas emissions be reduced to 1990 levels or roughly a 28.3% reduction. Significance thresholds have not been adopted but are currently being discussed. AB 32 is specific as to when thresholds shall be defined. The pertinent Sections are referenced within Part 4 of AB 32 Titled *Greenhouse Gas Emissions Reductions* are shown below:

Section 38560.5 (b) states:

On or before January 1, 2010, the state board shall adopt regulations to implement the measures identified on the list published pursuant to subdivision (a).

Section 38562 states:

(A) On or before January 1, 2011, the state board shall adopt greenhouse gas emission limits and emission reduction measures by regulation to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit, to become operative beginning on January 1, 2012.

(B) In adopting regulations pursuant to this Section and Part 5 (commencing with Section (38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

- 1. Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.*
- 2. Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.*
- 3. Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this Section receive appropriate credit for early voluntary reductions.*
- 4. Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.*
- 5. Consider cost-effectiveness of these regulations.*
- 6. Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.*
- 7. Minimize the administrative burden of implementing and complying with these regulations.*
- 8. Minimize leakage.*

9. *Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.*

(C) In furtherance of achieving the statewide greenhouse gas emissions limit, by January 1, 2011, the state board may adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit greenhouse gas emissions, applicable from January 1, 2012, to December 31, 2020, inclusive, that the state board determines will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in the aggregate, from those sources or categories of sources.

(D) Any regulation adopted by the state board pursuant to this part or Part 5 (commencing with Section 38570) shall ensure all of the following:

- 1. The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.*
- 2. For regulations pursuant to Part 5 (commencing with Section 38570), the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.*
- 3. If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.*

3.2 Senate Bill No. 375 (SB 375)

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the State's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, ARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, ARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPO).

Each of California's MPOs must prepare a "sustainable communities strategy" (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. ARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "alternative planning strategy" (APS) to meet the targets (California Air Resource Board, 2015).

3.3 Regulatory Standards (Senate Bill 97)

SB 97 requires the Office of Planning and Research (OPR) to prepare and transmit to the Resources Agency, guidelines and directed amendments to the CEQA statute specifically for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions.

3.4 AB 1493 (Pavley Standards)

AB 1493 regulations are similar to CAFE Standards however are expected to produce a Greenhouse Gas Benefit greater to that of the CAFE Standard and would be expected to double the amount of GHGs saved under CAFE. The Pavley rules or also referred to as California Standards are designed to regulate GHG emissions while the federal standards are aimed at reducing the nation's fuel consumption.

Under Pavley starting with vehicles produced in 2009, manufactures have the flexibility in meeting California standards through a combination of reducing tailpipe emissions of Carbon Dioxide, Nitrous Oxide, Methane and hydrofluorocarbons from vehicle air conditions systems. Furthermore, the California standards are estimated to increase fuel efficiency to 35.7 miles per gallon by 2016 and under more stringent emission limits called originally termed Pavley II would increase efficiency to 42.5 miles per gallon by 2020 (California Air Resource Board, 2013).

3.5 Advanced Clean Car Program

Pavley II along with other low-Emission Vehicle (LEV) regulations including new approaches to increase zero emission vehicles and hybrids have since been combined into a single effort program termed Advanced Clean Cars (California Air Resource Board, 2014). The new effort uses a number of emission control programs to control smog, soot and global warming and would be in effect in 2017. This program is estimated to reduce GHGs emissions at least 2.4% beyond that of Pavley I (California Air Resource Board, 2011).

3.6 Vehicle Efficiency Measures

Vehicle efficiency measures within the Scoping Plan include Low Friction Oil, Tire Pressure Regulation, Tire Tread Program, and Solar Reflective Automotive Paint and specialized window glazing and according to the scoping plan will reduce GHGs by 4.5 MMTCO₂e in 2020. To date however, some of the reduction measures under Vehicle Efficacy are still under review with the exception of the Tire Pressure Regulations.

3.7 Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (P.L. 110-140, H.R. 6) is an energy policy law adopted by congress which consists mainly of provisions designed to increase energy efficiency and the availability of renewable energy. The law will require automakers to boost fleet wide gas mileage averages from the current 25 mpg to 35 mpg by 2020. The rule was updated in 2010 which required fleet-wide fuel economy standard to be set at 34.1 miles per gallon by 2016 and affect cars built in 2012 through 2016. Also, in October 2012, the rules were further changed to 54.5 mpg for cars and light-duty trucks by Model Year 2025. This fleet wide average is known as the Corporate Average Fuel Economy (CAFE) standard.

CAFE Standards are similar to requirements developed within AB 1493 regulations however would not reduce greenhouse gas levels as quickly. The United States Environmental Protection Agency (U.S. EPA) denied the state of California from implementing AB 1493.

3.8 Executive Order S-01-07

Executive Order S-01-07 was signed by Governor Arnold Schwarzenegger in January 2007 and is effectively known as the Low Carbon Fuel Standard or LCFS. The executive order seeks to reduce the carbon intensity of California's passenger vehicle fuels by at least 10% by 2020. The LCFS will require fuel providers in California to ensure that the mix of fuel they sell into the California market meet, on average, a declining standard for GHG emissions measured in CO_{2e} grams per unit of fuel energy sold.

3.9 California Environmental Quality Act (CEQA) Requirements

As directed by SB 97, the Natural Resources Agency adopted Amendments to Title 14 Division 6 Chapter 3 CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The amendments became effective on March 18, 2010. The pertinent Sections are shown below:

Section 15064.4 - Determining the Significance of Impacts from Greenhouse Gas

- (A) *The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas*

emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- 1. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or*
- 2. Rely on a qualitative analysis or performance-based standards.*

(B) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

- 1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
- 2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.*
- 3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.*

General Questions recommended within the environmental checklist are:

- (a) Will the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- (b) Will the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

3.10 ARB Scoping Plan Measures

In response to AB 32, California Air Resource Board (ARB) developed the Climate Change Scoping Plan. In that plan, the Board developed GHG emission reduction strategies which expanded energy efficiency programs, increased utility renewable energy requirements, developed clean car and Low Carbon Fuel Standards (LCFS), developed the cap-and-trade program and identified adopted discretionary measures to assist the state in meeting the 2020 limits established by AB 32.

In May 2014, the ARB adopted the first update to the original scoping plan which was necessary to establish long-term GHG policies to make deep GHG emission reductions to

achieve an 80% reduction below 1990 levels by 2050. The update includes key recommendations for six key economic sectors (energy, transportation, agriculture, water, waste management, and natural and working lands) as well as short-lived climate pollutants, green buildings, and the Cap-and-Trade Program. The findings largely affect regulatory measures that will indirectly reduce GHG emissions and generate a need to update local policies.

3.11 County of San Diego Thresholds of Significance

In January 2015, the County developed the latest Guidelines for Determining Significance (County of San Diego Planning and Development Services, January 21, 2015). In that document the County suggest using screening level published by the California Air Pollution Control Officers Association (CAPCOA) for determining the need for additional analysis and mitigation for GHG-related impacts under CEQA which suggest projects producing less than 900 would be considered less than significant and conservative criterion for determine impacts within the county. Project exceeding this would require further mitigation (California Air Pollution Control Officers Association, 2008).

The San Diego Planning and Development Services (SDPDS) has indicated that projects that emit more than 900 Metric Tons of GHGs would be required to conduct a GHG analysis and show that the project would reduce emissions by at least 16% through the incorporation of mitigation measures. The draft guidelines have been developed from the requirements of AB 32 and addresses potential cumulative impacts a project's GHG emissions could have on GCC.

4.0 METHODOLOGY

4.1 Construction CO₂e Emissions Calculation Methodology

The Project construction would be expected to take approximately 14 months to complete. Existing onsite structures will be demolished within roughly nine days. The grading operations are expected to take up to six months. After grading is complete trenching and paving operations would take an additional two months and then the residential buildings will be built out over the following 6-months. The entire build out of the Project would be expected no sooner than August 2017. Table 4.1 below shows the expected timeframes for the construction processes for all the project infrastructure, facilities, improvements and residential structures at the proposed project location.

Table 4.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Completion	Construction Days	Quantity
Demolition	01/01/2016	01/15/2016	11	
Concrete/Industrial Saws				1
Excavators				2
Rubber Tired Dozers				2
Site Preparation	01/16/2016	01/30/2016	10	
Rubber Tired Dozers				2
Tractors/Loaders/Backhoes				4
Grading	02/02/2016	03/25/2016	39	
Excavators				2
Graders				2
Rubber Tired Dozers				1
Scrapers				2
Tractors/Loaders/Backhoes				2
Paving	03/26/2016	04/22/2016	20	
Pavers				2
Paving Equipment				2
Rollers				2
Building Construction	04/25/2016	07/13/2017	319	
Cranes				1
Forklifts				3
Generator Sets				2
Tractors/Loaders/Backhoes				3
Welders				2
Architectural Coating	03/16/2017	7/13/2017	86 (Overlapped with Building Construction)	
This equipment list is based upon equipment inventory within CALEEMOD.2013.2.2. The quantity and types are based upon assumptions from Projects of similar size and scope in the County of San Diego.				

GHG impacts related to construction will be calculated using the latest CalEEMod 2013.2.2 air quality model which was developed by ENVIRON International Corporation for South Coast Air Quality Management District (SCAQMD). Additionally, CO₂e emissions generated from blasting will be added to the CalEEMod output. CalEEMod incorporates emission factors from the EMFAC2011 model for on-road vehicle emissions and the OFFROAD2011 model for off-road vehicle emissions. Because CO₂ emissions from construction only occur at the beginning of a project, emissions will be averaged over a 20-year period.

4.2 Operational Emissions Calculation Methodology

Once construction is completed the proposed project would generate air quality and GHG emissions from daily operations which would include sources such as Area, Energy, Mobile, Solid waste and Water uses, which are calculated within CalEEMod. Area Sources include usage of fireplaces, consumer products, landscaping and architectural coatings as part of regular maintenance. Energy sources would be from uses such as electricity and natural gas. Solid waste generated in the form of trash is also considered as decomposition of organic material breaks down to form GHGs. GHGs from water are also indirectly generated through the conveyance of the resource via pumping throughout the state and as necessary for wastewater treatment. Finally the project would also generate air quality emissions and GHG through the use of carbon fuel burning vehicles for transportation. For purposes of analysis, default settings were used with the exception of electricity for parks which is further described in section 4.3 below. The annual CalEEMod inputs are shown in ***Attachments A*** at the end of this report.

4.3 CalEEMod Electricity Usage Modifications

Electricity consumption for the multi-family residential units was based on CalEEMod default settings, however, CalEEMod does not have energy data for parks.

Electricity usage for the Park would be minimal and would only be for nighttime lighting. It is estimated that the park would need approximately 25 light fixtures for the entire park. Typically, either metal halide or high pressure sodium lights are used for low temperature lighting as required for night sky ordinances. Typically, these light bulbs are rated at 400 Watts (Everlast Lighting, 2015).

CalEEMod was updated to reflect these consumption variables. The 25-400W street lights which will be utilized at the park are expected to be on for at least 4,380 hours per year or 12 hours per day. This would work out to an additional project usage of 43,800 kWh per year. CalEEMod was updated to reflect these consumption variables.

5.0 FINDINGS

5.1 Project Related Construction Emissions

Utilizing the CalEEMod inputs for the model as shown in Table 4.1 above, we find that grading and construction of the project will produce approximately 915.07 Metric Tons of CO₂e over the construction life of the project. Given the fact that the total emissions will ultimately contribute to 2020 cumulative levels, it is acceptable to average the total construction emission over a 20 year period which would be 45.75 Metric Tons of CO₂e annually. A summary of the construction emissions is shown in Table 5.1 below.

Table 5.1: Expected Construction CO₂e Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2016	0.00	586.53	586.53	0.12	0.00	589.05
2017	0.00	324.93	324.93	0.05	0.00	326.01
Total Construction Emissions (MT)						915.07
Yearly Average Construction Emissions (Metric Tons/year over 20 years)						45.75
Expected Construction emissions are based upon CalEEMod modeling assumptions for equipment and durations listed in Table 4.1 above.						

5.2 Project Related Operational Emissions/Conclusions

As previously discussed, emissions generated from Area, Energy, Mobile, Solid Waste and Water uses is also calculated within CalEEMod. The program is largely based on default settings which are automatically populated throughout the model based on the imputed land use however some uses like the fire station and the park do not have default settings which were revised as stated above in Section 4 of this report. Statewide averages for utility emissions were utilized for the calculations throughout the model. The calculated operational emissions are identified in Table 5.2 on the following page:

Table 5.2: Expected Unmitigated Operational Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	130.15	56.06	186.22	0.12	0.01	191.94
Energy	0.00	289.07	289.07	0.01	0.00	290.31
Mobile	0.00	1,221.75	1,221.75	0.05	0.00	1,222.74
Waste	11.79	0.00	11.79	0.70	0.00	26.41
Water	2.60	58.66	61.26	0.27	0.01	69.04
Total (MT/Yr)						1,800.44
Amortized Construction Emissions (Table 5.1 above)						45.75
Total Operations (MT/Year)						1,846.20
Data is presented in decimal format and may have rounding errors.						

5.3 Regulatory and Design Feature Reductions

Offsite Vehicular Reductions

Due to the fact that the State of California will require vehicle manufactures to cut emissions of vehicles under the Advanced Clean Cars program (formerly known as Pavley and LEV III) rules, vehicular emissions are expected to be reduced drastically through 2020 and beyond. Based off reductions CARB recommended reduction measures, the proposed Project would expect to see related emissions reduced by 2.4% from Advanced Clean Cars, 10% from LCFS and a further 0.6% from the tire pressure regulation program under vehicle efficiency measures (California Air Resource Board, 2011). CalEEMod was designed to include reduction measures from Pavley I and these reduction measures were already assumed for all projects within San Diego County. Advanced Clean Car reductions, tire pressure regulation and LCFS reductions were modeled within CalEEMod.

Indirect Electricity and Natural Gas Design Features

The County of San Diego will require the contractor to utilize the most current building code at the time residential units are constructed. The analysis within this report assumes that the proposed project would increase building efficiency to at least Title 24 2013 and would be required to achieve at least a 25% reduction over Title 24, 2008. In accordance with BE-4 of CAPCOA's Quantification document, the project would install Energy Efficient clothes washers, dishwashers, fans and refrigerators within the residential units. Similarly Natural Gas emissions would be reduced since the proposed project would increase building efficiency to at least Title 24 2013 and would ensure that the project achieves at least a 25% reduction over Title 24, 2008.

Electrical Utility Reduction Measures

The goals of SDGE (the proposed projects energy provider) are suggesting that 33% of the energy supplied to their customers would be from renewable sources by 2020 which would roughly be 13% over the 20% currently assumed by the County and was modeled as such within CalEEMod or 13% of Electricity Use Generated for use by the project would be from renewable sources above the already assumed 20%.

Water Reductions

The project will be required to install all water fixtures compliant with the 2010 California Green Building Standards codes. As such according to CAPCOA WUW-1 and WUW-2, CalEEMod was updated to include a 20% water conservation strategy for both indoor and outdoor water uses and would require the project to install low flow bathroom faucets, kitchen faucets, toilets and showerheads.

Project Related Solid Waste Emissions Gas Usage Reductions

Under AB 341, the Project would ultimately be required to increase diversion of waste from landfills to recycling centers by 75% or 25% more than requirements set forth under the Integrated Waste Management Act of 1989 which was considered BAU. As part of this Project, the Project would provide separate waste containers to allow for simpler material separations or the Project would pay for a waste collection service that recycles the materials in accordance with AB 341. All green waste will be diverted from landfills and recycled as mulch. For purposes of this analysis, only a 25% reduction in GHGs was applied as a conservative reduction calculation approach.

5.4 Mitigated Emissions

Combining regulatory measures such as Advanced Clean Cars, Low Carbon Fuel Standards, Tire Pressure Regulations, Utility renewable portfolio requirements, increasing building efficiency by 25% above Title 24 2008, installing only natural gas hearths and energy efficient appliances, the project would see reduced emissions by 315 MT.

A reduction of this size would reduce the projects emissions by 17.0% which will meet and exceed the requirements of CEQA as well as the County of San Diego's interim guidelines requiring a reduction of 16%. Therefore, the project conforms to the goals of AB 32 and would not result in any direct impacts and cumulative impacts would be reduced to a level that is less than significant. No additional analysis is required. Table 5.3 below summarizes these reductions.

Table 5.3: Expected Mitigated Operational Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Area	0.00	90.80	90.80	0.00	0.00	91.37
Energy	0.00	232.40	232.40	0.01	0.00	233.39
Mobile	0.00	1,081.19	1,081.19	0.04	0.00	1,082.07
Waste	8.84	0.00	8.84	0.52	0.00	19.81
Water	2.08	50.22	52.31	0.22	0.01	58.54
Total Operations						1,485.18
Total Construction Emissions (Amortized over 20 Years)						45.75
Total Mitigated Cumulative Operations (Construction + Operations)						1,530.93
Unmitigated Emissions (From Table 5.2 above)						1,846.20
Mitigated Reductions						-315.27
Percentage Reduction						17.1 %
Data is presented in decimal format and may have rounding errors.						

5.6 Conclusion

The proposed project will emit GHGs directly through the burning of carbon-based fuels such as gasoline and natural gas as well as indirectly through usage of electricity, water and from the anaerobic bacterial breakdown of organic solid waste. The proposed project would generate approximately 1,846 Metric Tons of CO₂e each year under an unmitigated scenario, which exceeds CAPCOA 900 Metric Ton per year screening level and would require mitigation to reduce GHG impacts by more than 16% as necessary to reduce impacts to below significance.

Combining mitigation measures such as Advanced Clean Cars, Low Carbon Fuel Standards, Tire Pressure Regulations, Utility renewable portfolio reductions, Increasing building efficiency to 25% above Title 24, 2008, installing only natural gas hearths and energy efficient appliances (clothes washers, dishwashers, fans and refrigerators), implementing a waste recycling program and by reducing water demand through adding low flow fixtures will reduce emissions by 315 MT each year which correlates to a reduction of 17.1%. A reduction of this size would meet and exceed the requirements of CEQA as well as the County of San Diego's guidelines. Therefore, the project would conform to the goals of AB 32 and would not result in any direct impacts and cumulative impacts would be reduced to a level that is less than significant.

6.0 References

- California Air Pollution Control Officers Association. (2008). *CAPCOA*. Retrieved from <http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf>
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- California Air Resource Board. (2015, February). *Sustainable Communities*. Retrieved March 25, 2015, from <http://www.arb.ca.gov/cc/sb375/sb375.htm>
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- City-Data. (2015). *Spring Valley City Data*. Retrieved 2015, from <http://www.city-data.com/city/Spring-Valley-California.html>
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- Everlast Lighting. (2015). *Indoor Comparison Metal Halide*. Retrieved 2015, from <http://www.everlastlight.com/comparisons/indoor-comparison.html>

7.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the projected CO₂e emissions from the Sweetwater Place Residential development based upon the best available information at the time of preparation. The report was prepared by Jeremy Loudon; an approved CEQA Consultant for Air Quality and Greenhouse Gas.

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Date April 30, 2015

ATTACHMENT A

CALEEMOD 2013.2.2 - Unmitigated Annual (2020)

Sweetwater Village (Unmitigated)
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Demolition -

Vehicle Trips - Trip Generation per Project Traffic Study + Pavley 2.8% and LCFS 10%

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	33,323.00	24,829.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	99,970.00	74,488.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	82,350.00	85,050.00
tblArchitecturalCoating	ConstArea_Residential_Interior	247,050.00	255,150.00
tblAreaCoating	Area_Nonresidential_Interior	99970	74488
tblAreaCoating	Area_Residential_Exterior	82350	85050
tblAreaCoating	Area_Residential_Interior	247050	255150
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	230.00	319.00
tblConstructionPhase	NumDays	20.00	11.00

tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblFireplaces	NumberGas	67.10	69.30
tblFireplaces	NumberNoFireplace	12.20	12.60
tblFireplaces	NumberWood	42.70	44.10
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	0.13	0.10
tblSolidWaste	SolidWasteGenerationRate	56.12	57.96
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	VendorTripNumber	24.00	22.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblTripsAndVMT	WorkerTripNumber	116.00	112.00

tblTripsAndVMT	WorkerTripNumber	23.00	22.00
tblVehicleTrips	ST_TR	1.59	22.60
tblVehicleTrips	ST_TR	7.16	9.04
tblVehicleTrips	SU_TR	1.59	22.60
tblVehicleTrips	SU_TR	6.07	9.04
tblVehicleTrips	WD_TR	1.59	22.60
tblVehicleTrips	WD_TR	6.59	9.04
tblWater	IndoorWaterUseRate	7,948,791.13	8,209,407.23
tblWater	OutdoorWaterUseRate	1,822,966.46	1,358,288.74
tblWater	OutdoorWaterUseRate	5,011,194.41	5,175,495.86
tblWoodstoves	NumberCatalytic	6.10	6.30
tblWoodstoves	NumberNoncatalytic	6.10	6.30

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	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5256	586.5256	0.1204	0.0000	589.0549
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9298	324.9298	0.0516	0.0000	326.0127
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4554	911.4554	0.1720	0.0000	915.0676

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	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5250	586.5250	0.1204	0.0000	589.0543
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9295	324.9295	0.0516	0.0000	326.0124
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4545	911.4545	0.1720	0.0000	915.0667

[illegible]

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	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Energy	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	289.0686	289.0686	9.6300e-003	3.3600e-003	290.3119
Mobile	0.6185	1.3636	6.3877	0.0176	1.2119	0.0202	1.2321	0.3241	0.0186	0.3427	0.0000	1,221.748 3	1,221.748 3	0.0472	0.0000	1,222.739 1
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2699	6.8000e-003	69.0384
Total	9.5581	1.5634	17.0709	0.0220	1.2119	1.4001	2.6120	0.3241	1.3985	1.7227	144.5428	1,625.538 0	1,770.080 8	1.1447	0.0204	1,800.444 6

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	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Energy	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	289.0686	289.0686	9.6300e-003	3.3600e-003	290.3119
Mobile	0.6185	1.3636	6.3877	0.0176	1.2119	0.0202	1.2321	0.3241	0.0186	0.3427	0.0000	1,221.748 3	1,221.748 3	0.0472	0.0000	1,222.739 1
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2698	6.7900e-003	69.0343
Total	9.5581	1.5634	17.0709	0.0220	1.2119	1.4001	2.6120	0.3241	1.3985	1.7227	144.5428	1,625.538 0	1,770.080 8	1.1447	0.0204	1,800.440 4

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete 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					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589

3.2 Concrete Demolition - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

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					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588

3.2 Concrete Demolition - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

3.3 Site Preparation - 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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

3.4 Grading - 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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613

3.4 Grading - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612

3.4 Grading - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

3.5 Paving - 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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

3.6 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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660

3.6 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657

3.6 Building Construction - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

3.6 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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877

3.6 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874

3.6 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

3.7 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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6185	1.3636	6.3877	0.0176	1.2119	0.0202	1.2321	0.3241	0.0186	0.3427	0.0000	1,221.7483	1,221.7483	0.0472	0.0000	1,222.7391
Unmitigated	0.6185	1.3636	6.3877	0.0176	1.2119	0.0202	1.2321	0.3241	0.0186	0.3427	0.0000	1,221.7483	1,221.7483	0.0472	0.0000	1,222.7391

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	34.58	34.58	34.58	73,819	73,819
Condo/Townhouse	1,102.88	1,102.88	1,102.88	3,149,057	3,149,057
Total	1,137.46	1,137.46	1,137.46	3,222,876	3,222,876

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.9964	193.9964	7.8100e-003	1.6200e-003	194.6612
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.9964	193.9964	7.8100e-003	1.6200e-003	194.6612
NaturalGas Mitigated	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508
NaturalGas Unmitigated	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.78159e+006	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.78159e+006	9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508
Total		9.6100e-003	0.0821	0.0349	5.2000e-004		6.6400e-003	6.6400e-003		6.6400e-003	6.6400e-003	0.0000	95.0722	95.0722	1.8200e-003	1.7400e-003	95.6508

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	534959	174.8293	7.0400e-003	1.4600e-003	175.4284
Total		193.9964	7.8100e-003	1.6200e-003	194.6612

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	534959	174.8293	7.0400e-003	1.4600e-003	175.4284
Total		193.9964	7.8100e-003	1.6200e-003	194.6612

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	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Unmitigated	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	61.2618	0.2698	6.7900e-003	69.0343
Unmitigated	61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhouse	8.20941 / 5.1755	56.3300	0.2697	6.7600e-003	64.0898
Total		61.2618	0.2699	6.8000e-003	69.0384

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhouse	8.20941 / 5.1755	56.3300	0.2696	6.7500e-003	64.0856
Total		61.2618	0.2698	6.7900e-003	69.0343

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.7857	0.6965	0.0000	26.4124
Unmitigated	11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

9.0 Operational Offroad

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

ATTACHMENT B

CALEEMOD 2013.2.2 - Mitigated Annual (2020)

Sweetwater Village (mitigated)
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017

tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5256	586.5256	0.1204	0.0000	589.0549
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9298	324.9298	0.0516	0.0000	326.0127
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4554	911.4554	0.1720	0.0000	915.0676

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	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5250	586.5250	0.1204	0.0000	589.0543
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9295	324.9295	0.0516	0.0000	326.0124
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4545	911.4545	0.1720	0.0000	915.0667

[illegible]

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	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Energy	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	281.7596	281.7596	9.4500e-003	3.2400e-003	282.9638
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.193 2	1,081.193 2	0.0418	0.0000	1,082.070 0
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2699	6.8000e-003	69.0384
Total	9.4815	1.4020	16.3341	0.0199	1.0725	1.3975	2.4699	0.2868	1.3960	1.6829	144.5428	1,477.673 9	1,622.216 7	1.1391	0.0203	1,652.427 4

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	1.0281	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Energy	7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	232.3997	232.3997	7.8300e-003	2.6600e-003	233.3882
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.193 2	1,081.193 2	0.0418	0.0000	1,082.070 0
Waste						0.0000	0.0000		0.0000	0.0000	8.8392	0.0000	8.8392	0.5224	0.0000	19.8093
Water						0.0000	0.0000		0.0000	0.0000	2.0836	50.2234	52.3069	0.2160	5.4600e-003	58.5362
Total	1.5827	1.2796	6.5888	0.0160	1.0725	0.0341	1.1066	0.2868	0.0327	0.3195	10.9228	1,454.615 5	1,465.538 3	0.7911	9.7600e-003	1,485.176 8

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	83.31	8.73	59.66	19.53	0.00	97.56	55.20	0.00	97.66	81.01	92.44	1.56	9.66	30.55	51.87	10.12

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete 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					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589

3.2 Concrete Demolition - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

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					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588

3.2 Concrete Demolition - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

3.3 Site Preparation - 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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

3.4 Grading - 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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613

3.4 Grading - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612

3.4 Grading - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

3.5 Paving - 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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

3.6 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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660

3.6 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657

3.6 Building Construction - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

3.6 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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877

3.6 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874

3.6 Building Construction - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

3.7 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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700
Unmitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	65,326
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,786,776
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,852,103

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	160.1756	160.1756	6.4500e-003	1.3300e-003	160.7245
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	191.9745	191.9745	7.7300e-003	1.6000e-003	192.6324
NaturalGas Mitigated	7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637
NaturalGas Unmitigated	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.68251e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.35343e+006	7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637
Total		7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	528772	172.8075	6.9600e-003	1.4400e-003	173.3996
Total		191.9745	7.7300e-003	1.6000e-003	192.6324

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	51024.8	16.6754	6.7000e-004	1.4000e-004	16.7325
Condo/Townhouse	439096	143.5003	5.7800e-003	1.2000e-003	143.9920
Total		160.1756	6.4500e-003	1.3400e-003	160.7245

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0281	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Unmitigated	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2547					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2547					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.0300e-003	0.0000	4.9000e-004	0.0000		6.2400e-003	6.2400e-003		6.1700e-003	6.1700e-003	0.0000	89.3195	89.3195	1.7100e-003	1.6400e-003	89.8631
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	1.0281	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731

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

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	52.3069	0.2160	5.4600e-003	58.5362
Unmitigated	61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhouse	8.20941 / 5.1755	56.3300	0.2697	6.7600e-003	64.0898
Total		61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.27543	4.6309	1.9000e-004	4.0000e-005	4.6468
Condo/Townhouse	6.56753 / 4.85979	47.6760	0.2158	5.4200e-003	53.8895
Total		52.3069	0.2160	5.4600e-003	58.5362

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.8392	0.5224	0.0000	19.8093
Unmitigated	11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.075	0.0152	9.0000e-004	0.0000	0.0341
Condo/Townhouse	43.47	8.8240	0.5215	0.0000	19.7752
Total		8.8392	0.5224	0.0000	19.8093

9.0 Operational Offroad

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