Appendix A

Air Quality and Greenhouse Gas Assessment

3000 BOWERS AVENUE OFFICE PROJECT AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT

Santa Clara, California

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Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed office development located at 3000 Bowers Avenue in Santa Clara, California. The air quality impacts from this project would be associated with construction of the new buildings and infrastructure, and operation of the project. Air pollutants and GHG emissions associated with construction and operation of the project were predicted using models. A community risk assessment was not completed since there are no sensitive receptors within 1,000 feet of the project site. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project is proposing to construct two five-story, 165,000 square foot (sf), office buildings and a five-level parking garage. The maximum height of the office buildings would be 87.5 feet above the ground surface at the top of the roof screen and the maximum height of the parking structure would be up to 73 feet above the ground surface at the top of the elevator tower.

The project would construct a new five-foot wide sidewalk along the site's frontage on Oakmead Village Court and Central Expressway, which would connect to the existing sidewalk on Bowers Avenue. Vehicles would enter and exit the site by two driveways on Oakmead Village Court and one driveway on Bowers Avenue. An internal roadway spanning driveways on Oakmead Village Court and Bowers Avenue would provide access to parking. Pedestrian paths would be included throughout the site, providing connections to buildings and outdoor recreational areas. The project would have approximately 980 parking spaces, including spaces within the parking structure and surface parking lot.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Regulatory Agencies

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[2] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[3]

City of Santa Clara 2010 – 2035 General Plan.

On November 16, 2010, the City of Santa Clara adopted the *City of Santa Clara 2010 – 2035 General Plan.*[4] The general plan includes goals, policies, and actions to reduce air pollutants and exposure to toxic air containments. The following goals, policies, and actions are applicable to the proposed project and this assessment:

5.10.2 Air Quality Policies

5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

5.10.2-P6 Require "Best Management Practices" for construction dust abatement.

[2] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[3] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.
[4] City of Santa Clara, 2010. *City of Santa Clara 2010 – 2035 General Plan*. November. Web: https://www.santaclaraca.gov/home/showdocument?id=56139

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. There are no sensitive receptors within 1,000 feet of this project.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under the CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1.

Table 1. BAAQMD CEQA Air Quality Exceedance Thresholds

	Construction Thresholds	**Operational Thresholds**	
Criteria Air Pollutant	**Average Daily Emissions (lbs./day)**	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) 660 metric tons annually or 2.8 metric tons per capita (for 2030)*		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

AIR QUALITY IMPACTS

Criteria Pollutant Emissions – Project Construction and Operation

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity, construction vehicle trips, and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2017 model (EMFAC2017) model was used to predict emissions from construction traffic that includes worker and truck trips.[5] The model output from CalEEMod along with construction inputs are included as *Attachment 1* and EMFAC2017 emissions modeling outputs are included in *Attachment 2*.

Land Use Inputs

The project includes two office buildings, an enclosed parking garage, and a parking lot. One construction data sheet was provided for each structure and modeled separately. The proposed project land uses were input into CalEEMod as shown in Table 2.

Table 2. Project Land Use Inputs for CalEEMod

Model	Land Use	Size	Square Footage	Acreage
Model 1	General Office Building 1	165,000 sf	-	1.9
Model 2	General Office Building 2	165,000 sf	-	1.9
Model 3	Enclosed Parking Lot with Elevator	958 parking spaces	321,960	3.4
	Parking Lot	22 parking spaces	8,800	
Square feet = sf				

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario,

[5] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

including equipment list and schedule, were based on information provided by the project applicant.

Each construction equipment worksheet provided for the three developments also included the schedule for each building structure. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase.

Construction of the parking garage would begin first in January 2021 and end in March 2022. The construction of the office developments would both start in February 2021 and both end in February 2022. The entire construction period would last approximately 15 months or 302 total workdays.

Construction Truck Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions were based on estimates of worker and truck traffic provided by the applicant in the construction data sheet (see *Attachment 1*).

The traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trucks, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export). Since CalEEMod does not address cement trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emission rates from the year 2021 and 2022 for Santa Clara County were used. Table 3 provides the traffic inputs that were combined with the EMFAC2017 emission database to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	71.5% LDA 6.4% LDT1 22.1% LDT2	38.1% MHDT 61.9% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 Demo 7.3 Vendor (Concrete/Cement/Asphalt)	5 Minute Truck Idle Time
Office Building 1				
Grading	130	0	217	Export = 1,735 cy
Trenching	150	0	0	
Structural Steel	2,120	1,080	0	
Concrete	7,261	3,699	148	One Dump Truck assumed to make four trips a day (37 workdays)
Architectural Coating	1,056	0	0	
Building Exterior	6,519	3,321	1,066	533 Total Cement Truck Round Trips
Office Building 2				
Grading	130	0	217	Export = 1,735 cy
Trenching	150	0	0	
Structural Steel	5,777	2,943	0	
Concrete	1,696	864	148	One Dump Truck assumed to make four trips a day (37 workdays)
Architectural Coating	1,012	0	0	
Building Exterior	6,148	3,132	1,066	533 Total Cement Truck Round Trips
Parking Garage				
Site Preparation	80	0	0	Import = 1,000 cy Export = 1,735 cy
Paving	65	0	60	30 Asphalt Round Trips
Grading	1,000	0	891	
Trenching	345	0	28	One Dump Truck assumed to make four trips a day (68 workdays)
Concrete	38,225	14,850	272	
Building Exterior	9,313	3,618	3,096	1,548 Cement Truck Round Trips

Notes:[1] Based on 2021 EMFAC2017 fleet mix for Santa Clara County, [2] Includes demolition trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Annual emissions were predicted by CalEEMod. Average daily emissions were computed by dividing the total construction emissions by the number of construction days (302 construction workdays). Table 4 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 4, predicted construction period emissions would not exceed the BAAQMD significance thresholds. Additionally, the *City of Santa Clara 2010 – 2035 General Plan* requires the implementation of the BAAQMD best management practices to control dust and exhaust during construction. Therefore, air pollutant emissions from the project would be further reduced with those measures.

Table 4. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total Construction Emissions 2021-2022 (tons)	2.3	5.6	0.28	0.22
Average Daily Emissions (pounds/day)[1]	14.9	37.1	1.9	1.4
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

[1]Assumes 302 workdays.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future employees, customers, and vendors. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

All three developments (i.e. office buildings and parking garage) were modeled in one CalEEMod model to estimate the operational period emissions.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. This analysis assumed that the project would be fully built-out and fully occupied in the year 2023.

Operational Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model. The daily trip rate accounted for a 5-percent reduction in trips due to implementing a transportation

demand management (TDM) plan [6] For the office land use type, the forecasted daily trip rate with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[7] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. On road emission rates from 2023 from Santa Clara County were used (See *Attachment 2*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[8]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO2 per megawatt of electricity delivered in the year 2017.[9] However, this project would use electricity supplied by Silicon Valley Clean Energy (SVCE)

SVCE purchases carbon-free electricity and partners with PG&E to deliver this electricity over existing power lines that they maintain. SVCE provides 100-percent carbon-free energy. However, customers have the option to opt out of the program and purchase electricity from PG&E, which is not carbon free, as described above. This analysis assumes a 10-percent non-participation rate

[6] Hexagon Transportation Consultants, Inc., 2020. *3000 Bowers Avenue Office Project Trip Generation Rates and Traffic Volumes*. March.
[7] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf
[8] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[9] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

with SVCE. Therefore, an electricity emission rate of 21 pounds per of CO_2 per megawatt of electricity delivered was used for this analysis.

Project Generators

The project would include three 1,000-kilowatts (kW) emergency generators. The generator would be powered by a diesel engine, approximately 1,341 horsepower (HP). These generators would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generator would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. The generator emissions were modeled using CalEEMod.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

The existing site is vacant, so no existing land use model was computed.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows average daily construction emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emissions (*tons/year*)	2.9 tons	2.1 tons	2.1 tons	0.6 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2023 Project Operational Emissions (*pounds/day*)[1]	16.1 lbs.	11.4 lbs.[2]	11.5 lbs.[2]	3.3 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*

Notes: [1] Assumes 365-day operation. [2]Emissions differ due to rounding.

GREENHOUSE GAS IMPACTS

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards

Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term

goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2017, total gross nationwide GHG emissions were 6,457 MMT. These emissions were lower than peak levels of 7,370 MMT that were emitted in 2008. Relative to 1990 levels, these emissions were CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions[10]. In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was completed for the year 2011, where emissions were 87 MMT [11]. As a point of comparison, statewide emissions were about 444 MMT in 2011.

[10] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Available at https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf accessed on Nov. 26, 2019.

[11] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Available at http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

City of Santa Clara Climate Action Plan

The City of Santa Clara has a Climate Action Plan (CAP),[12] adopted in December 2013, that established goals and measures to reduce greenhouse gas emissions by 23% below 2008 levels by 2020, which is enough to surpass the City and State goals. However, the Plan does not have a specific metric ton GHG threshold for project-level construction or operation.

BAAQMD Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Operation of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[13] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

Greenhouse Gas Emissions – Project Operation

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, the generator, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. The effects from project-specific sustainability measures were not included in this analysis. The CalEEMod output is included in *Attachment 1*.

[12] City of Santa Clara, 2013. *City of Santa Clara Climate Action Plan.* December. Web: https://www.santaclaraca.gov/home/showdocument?id=10170

[13] Bay Area Air Quality Management District, 2016. *CLE International 12th Annual Super-Conference CEQA Guidelines, Case Law and Policy Update*. December.

Service Population Emissions

The project service population efficiency rate is based on the number of future employees. The *Transportation Demand Management Plan* prepared by the traffic consultants estimated 1,320 total employees.[14] This employee count was used to calculate the per capita emissions.

Construction GHG Emissions

GHG emissions associated with construction were computed to be 2,180 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational GHG Emissions

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the opening and future year. Note that in this analysis if the project exceeds in the opening but not the future year, then the project is still considered to be in exceedance of the thresholds. Emissions from both years must be below at least one of the thresholds.

As shown in Table 6, annual GHG emissions resulting from operation of the proposed project are predicted to be 2,326 MT of CO_2e in 2023 and 2,321 MT of CO_2e in 2030. The service population emission for the years 2023 and 2030 is predicted to be 1.76 MT/CO_{2e}/year/service population for both years. The project would exceed the 660 MT CO_2e/year bright line threshold, but it would not exceed the per capita threshold of 2.6 MT of CO_2e/year/service population in either the opening or future years. Therefore, the project's GHG emissions would not be an exceedance.

Table 6. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project in 2023	Proposed Project in 2030
Area	<0.1	<0.1
Energy Consumption	373	373
Mobile	1,758	1,753
Solid Waste Generation	154	154
Water Usage	41	41
Metric Ton Total	2,326	2,321
Bright-Line Significance Threshold	*660 MT of CO_2e*	
Service Population Emissions	1.76	1.76
Per Capita Significance Threshold	*2.8 MT of CO_2e/year/service population*	
Exceed Both Thresholds?	***No***	***No***

[14] Hexagon Transportation Consultants, Inc., 2020. *3000 Bowers Avenue Office Project*. February.

Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction and operational criteria air pollutant and GHG emissions. The operational output for existing uses and 2030 project uses are also included in this attachment. Also included are any modeling assumptions.

Attachment 2 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 1: CalEEMod Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: 3000 Bowers Building 1

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

	Dwelling Units	total project acres disturbed
	s.f. residential	
	s.f. retail	
162969	s.f. office/commercial	
	s.f. other, specify:	
	s.f. parking garage	spaces
	s.f. parking lot	spaces

Construction Hours 7 am to 5 pm

Pile Driving? Y/N?

Project include GENERATOR OR FIRE PUMP on-site? Y/N? Y

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: 1000 KW

Fuel Type: Diesel

Location in project (Plans Desired if Available):

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Grading / Excavation	**Start Date:**	**2/13/2021**	**Total phase:**	**10**			**Overall Import/Export Volumes**
		End Date:	**2/27/2021**					
2	Excavators	158	0.38	8	7	5.6	112	
1	Graders	187	0.41	8	10	8	80	
1	Rubber Tired Dozers	247	0.4	8	10	8	80	**Soil Hauling Volume**
	Concrete/Industrial Saws	81	0.73			0	0	Export volume = 1735 cubic yards?
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	80	Import volume = ? cubic yards?
	Other Equipment?							
	Trenching	**Start Date:**	**3/14/2021**	**Total phase:**	**30**			
		End Date:	**4/25/2021**					
1	Concrete Pump	84	0.74	8	7	1.86666667	56	
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.53333333	16	
	Other Equipment?							
	Structural Steel	**Start Date:**	**5/17/2021**	**Total phase:**	**40**			
		End Date:	**7/13/2021**					
1	Cranes	46	0.45	8	20	4	160	
1	Forklift	62	0.31	8	20	4	160	
5	Welders	46	0.45	8	27	5.4	1080	
	Concrete	**Start Date:**	**7/16/2021**	**Total phase:**	**137**			
		End Date:	**9/25/2021**					
1	Concrete Pump	78	0.48	8	19	1.10948905	152	
1	Backhoe	97	0.37	8	36.5	2.13138686	292	
1	Dump Trucks	16	0.38	8	36.5	2.13138686	292	
1	Gradalls	187	0.41	8	75	4.37956204	600	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**8/24/2021**	**Total phase:**	**123**			**Cement Trucks? 533 Total Round-Trips**
		End Date:	**2/13/2022**					
2	Cranes	231	0.29	8	85	5.52845528	1360	Electric? (Y/N) ___ Otherwise assumed diesel
1	Forklift	89	0.2	8	85	5.52845528	680	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
2	Scissor Lifts	62	0.31	8	85	5.52845528	1360	Or temporary line power? (Y/N) ___
2	Boom Lifts	62	0.31	8	85	5.52845528	1360	
	Other Equipment?					0		
	Building - Interior/Architectural Coating	**Start Date:**	**7/31/2021**	**Total phase:**	**96**			
		End Date:	**12/12/2021**					
4	Scissor Lifts	62	0.31	8	96	8	3072	
2	Aerial Lift	62	0.31	8	96	8	1536	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

Complete one sheet for each project component

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horepower or load factor, as appropriate

Air Quality/Noise Construction Information Data Request

Project Name: 3000 Bowers Building 2

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

- ____ Dwelling Units
- ____ s.f. residential
- ____ s.f. retail
- 137031 s.f. office/commercial
- ____ s.f. other, specify:
- ____ s.f. parking garage ____ spaces
- ____ s.f. parking lot ____ spaces

____ total project acres disturbed

Pile Driving? Y/N?

Project include GENERATOR OR FIRE PUMP on-site? Y/N? Y

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: 1000 KW

Fuel Type: Diesel

Location in project (Plans Desired if Available):

Construction Hours ____ am to ____ pm

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Grading / Excavation	**Start Date:**	**2/21/2021**	**Total phase:**	**10**			**Overall Import/Export Volumes**
		End Date:	**3/6/2021**					
2	Excavators	158	0.38	8	7	5.6	112	
1	Graders	187	0.41	8	10	8	80	
1	Rubber Tired Dozers	247	0.4	8	10	8	80	**Soil Hauling Volume**
	Concrete/Industrial Saws	81	0.73			0	0	Export volume = 1735 cubic yards?
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	80	Import volume = ? cubic yards?
	Other Equipment?							
	Trenching	**Start Date:**	**3/21/2021**	**Total phase:**	**30**			
		End Date:	**5/2/2021**					
1	Concrete Pump	84	0.74	8	7	1.86666667	56	
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.53333333	16	
	Other Equipment?							
	Structural Steel	**Start Date:**	**6/8/2021**	**Total phase:**	**32**			
		End Date:	**7/24/2021**					
1	Cranes	46	0.45	8	20	5	160	
1	Forklift	62	0.31	8	20	5	160	
5	Welders	46	0.45	8	27	6.75	1080	
	Concrete	**Start Date:**	**5/1/2021**	**Total phase:**	**109**			
		End Date:	**9/27/2021**					
1	Concrete Pumps	78	0.48	8	19	1.39449541	152	
1	Backhoe	97	0.37	8	36.5	2.67889908	292	
1	Dump Trucks	16	0.38	8	36.5	2.67889908	292	
1	Gradalls	187	0.41	8	75	5.50458716	600	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**8/28/2021**	**Total phase:**	**116**			**Cement Trucks? 533 Total Round-Trips**
		End Date:	**2/6/2022**					
2	Cranes	231	0.29	8	87	6	1392	Electric? (Y/N) ___ Otherwise assumed diese
1	Forklift	89	0.2	8	87	6	696	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diese
2	Scissor Lifts	62	0.31	8	87	6	1392	Or temporary line power? (Y/N) ___
2	Boom Lifts	62	0.31	8	87	6	1392	
	Other Equipment?					0		
	Building - Interior/Architectural Coating	**Start Date:**	**8/7/2021**	**Total phase:**	**92**			
		End Date:	**12/13/2021**					
4	Scissor Lifts	62	0.31	8	92	8	2944	
2	Aerial Lift	62	0.31	8	92	8	1472	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during gradin

Add or subtract phases and equipment, as appropriate

Modify horepower or load factor, as appropriate

Complete one sheet for each project component

Air Quality/Noise Construction Information Data Request

Project Name: 3000 Bowers Garage/Site

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size		Dwelling Units	total project acres disturbed
		s.f. residential	
		s.f. retail	
		s.f. office/commercial	
		s.f. other, specify:	
	224800	s.f. parking garage	695 spaces
		s.f. parking lot	spaces
Construction Hours		am to	pm

Pile Driving? Y/N?

Project include GENERATOR OR FIRE PUMP on-site? Y/N? Y

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: 1000 KW

Fuel Type: Diesel

Location in project (Plans Desired if Available):

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Site Preparation	**Start Date:**	**1/30/2021**	**Total phase:**	**10**			**Overall Import/Export Volumes**
		End Date:	**2/12/2021**					
1	Graders	187	0.41	8	10	8	80	
1	Rubber Tired Dozers	247	0.4	8	10	8	80	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	80	
	Grading / Excavation	**Start Date:**	**2/13/2021**	**Total phase:**	**50**			
		End Date:	**4/24/2021**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	20	3.2	160	Export volume = 6,125 cubic yards? (Site utilities spoils left trench side
1	Graders	187	0.41	8	20	3.2	160	Import volume = 1000 cubic yards?
1	Rubber Tired Dozers	247	0.4	8	20	3.2	160	
1	Concrete/Industrial Saws	81	0.73	8		0	0	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	3.2	160	
2	Excavators	158	0.38	8	46	7.36	736	
1	Tractors/Loaders/Backhoes	97	0.37	8	46	7.36	368	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**2/13/2021**	**Total phase:**	**69**			
		End Date:	**5/16/2021**					
1	Concrete Pump	84	0.74	8	11	1.27536232	88	
1	Tractor/Loader/Backhoe	97	0.37	8	9	1.04347826	72	
1	Off Highway Trucks	402	0.38	8	7	0.8115942	56	
	Other Equipment?							
	Concrete	**Start Date:**	**2/13/2021**	**Total phase:**	**275**			
		End Date:	**1/30/2022**					
1	Concrete Pumps	78	0.48	8	55	1.6	440	
1	Backhoe	97	0.37	8	67.875	1.97454545	543	
1	Dump Trucks	16	0.38	8	67.875	1.97454545	543	
1	Gradalls	187	0.41	8	157.5	4.58181818	1260	
1	Crane	231	0.29	8	105	3.05454545	840	
2	Forklifts	89	0.2	8	275	8	4400	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**12/27/2021**	**Total phase:**	**67**			**Cement Trucks? 1548 Total Round-Trips**
		End Date:	**3/29/2022**					
2	Cranes	231	0.29	8	50	5.97014925	800	Electric? (Y/N) ___ Otherwise assumed diese
1	Forklift	89	0.2	8	50	5.97014925	400	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diese
2	Scissor Lifts	62	0.31	8	50	5.97014925	800	Or temporary line power? (Y/N) ___
2	Boom Lifts	62	0.31	8	50	5.97014925	800	
	Welders	46	0.45			0	0	
	Other Equipment?					0		
	Paving	**Start Date:**	**1/30/2021**	**Total phase:**	**5**			
		Start Date:	**2/5/2021**					
1	Cement and Mortar Mixers	9	0.56	8		0	0	
1	Pavers	130	0.42	8	2	3.2	16	**Asphalt? 275 cubic yards or 30 round trips?**
1	Paving Equipment	132	0.36	8	2	3.2	16	
1	Rollers	80	0.38	8	2	3.2	16	
1	Tractors/Loaders/Backhoes	97	0.37	8	2	3.2	16	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during gradin

Add or subtract phases and equipment, as appropriate

Modify horepower or load factor, as appropriate

Complete one sheet for each project component

Table 1
Trip Generation Estimates

Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
		Trip Rate	Trips	Trip Rate	Trips			Trip Rate	Trips		
					In	Out	Total		In	Out	Total
General Office Building	330,000 s.f.	9.74	3,214	1.16	329	54	383	1.15	61	319	380
- TDM Reduction (5%)			-161		-16	-3	-19		-3	-16	-19
Total Proposed Trips			***3,053***		***313***	***51***	***364***		***58***	***303***	***361***

Source: ITE Trip Generation Manual, 10th Edition, 2017.
Average trip rates expressed in trips per 1,000 square feet (s.f.) for General Office (ITE Land Use 710) are used.

3000 Bowers Building 1 - Construction AQ

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	165.00	1000sqft	1.90	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project will use SVCE for electricty and PG&E for natural gas (PG&E 2017 rate)

Land Use - Building 1: 165,000 SF

Construction Phase - No demolition, site preparation, paving phases for Building 1; Structural steel and concrete phases included as part of building construction

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Demolition not included in project construction

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Trips and VMT - No trips, EMFAC2017

Grading - Based on project applicant construction worksheet (Export 1,735 cy)

Architectural Coating -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Tier 4 interim applied to off-highway diesel engines, BMPs

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	150
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstructionPhase	NumDays	10.00	96.00
tblConstructionPhase	NumDays	200.00	40.00
tblConstructionPhase	NumDays	200.00	137.00
tblConstructionPhase	NumDays	200.00	123.00
tblConstructionPhase	NumDays	4.00	10.00
tblGrading	MaterialExported	0.00	1,735.00
tblLandUse	LotAcreage	3.79	1.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	5.50
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	5.50
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	2.10
tblOffRoadEquipment	UsageHours	6.00	7.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	5.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	217.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00
tblTripsAndVMT	WorkerTripNumber	11.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00

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					
2021	0.9581	1.0149	1.0245	1.80E-03	0.0329	0.0404	0.0732	0.0169	0.0377	0.0546	0	155.3785	155.3785	0.046	0	156.5283
2022	0.0116	0.1309	0.116	2.30E-04	0	5.31E-03	5.31E-03	0	4.90E-03	4.90E-03	0	20.5204	20.5204	6.47E-03	0	20.6821
Maximum	**0.9581**	**1.0149**	**1.0245**	**1.80E-03**	**0.0329**	**0.0404**	**0.0732**	**0.0169**	**0.0377**	**0.0546**	**0**	**155.3785**	**155.3785**	**0.046**	**0**	**156.5283**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8958	0.8172	1.2085	1.80E-03	0.0148	0.0207	0.0355	3.79E-03	0.0207	0.0245	0	155.3783	155.3783	0.046	0	156.5281
2022	4.44E-03	0.0902	0.1503	2.30E-04	0	1.81E-03	1.81E-03	0	1.81E-03	1.81E-03	0	20.5204	20.5204	6.47E-03	0	20.682
Maximum	**0.8958**	**0.8172**	**1.2085**	**1.80E-03**	**0.0148**	**0.0207**	**0.0355**	**3.79E-03**	**0.0207**	**0.0245**	**0**	**155.3783**	**155.3783**	**0.046**	**0**	**156.5281**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.16**	**20.81**	**-19.15**	**0.00**	**54.99**	**50.63**	**52.46**	**77.51**	**47.08**	**55.70**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-13-2021**	**5-12-2021**	0.1335	0.0546
2	**5-13-2021**	**8-12-2021**	0.3058	0.2641
3	**8-13-2021**	**11-12-2021**	1.0781	1.0057
4	**11-13-2021**	**2-12-2022**	0.6000	0.4903
		Highest	1.0781	1.0057

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/13/2021	2/26/2021	5	10	
2	Trenching	Trenching	3/14/2021	4/23/2021	5	30	
3	Structural Steel	Building Construction	5/17/2021	7/9/2021	5	40	
4	Concrete	Building Construction	7/16/2021	1/24/2022	5	137	
5	Architectural Coating	Architectural Coating	7/31/2021	12/13/2021	5	96	

6	Building Exterior	Building Construction	8/24/2021	2/10/2022	5	123	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 247,500; Non-Residential Outdoor: 82,500; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	5.60	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Pumps	1	1.90	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	0.50	97	0.37
Structural Steel	Cranes	1	4.00	231	0.29
Structural Steel	Forklifts	1	4.00	89	0.20
Structural Steel	Generator Sets	0	8.00	84	0.74
Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Structural Steel	Welders	5	5.40	46	0.45
Concrete	Cranes	0	7.00	231	0.29
Concrete	Dumpers/Tenders	0	2.10	16	0.38
Concrete	Excavators	1	4.40	158	0.38
Concrete	Forklifts	0	8.00	89	0.20
Concrete	Generator Sets	0	8.00	84	0.74
Concrete	Pumps	1	1.10	84	0.74
Concrete	Tractors/Loaders/Backhoes	1	2.10	97	0.37
Concrete	Welders	0	8.00	46	0.45
Architectural Coating	Aerial Lifts	6	8.00	63	0.31
Architectural Coating	Air Compressors	0	6.00	78	0.48

Building Exterior	Aerial Lifts	4	5.50	63	0.31
Building Exterior	Cranes	2	5.50	231	0.29
Building Exterior	Forklifts	1	5.50	89	0.20
Building Exterior	Generator Sets	0	8.00	84	0.74
Building Exterior	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Exterior	Welders	0	8.00	46	0.45

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
Grading	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Structural Steel	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Concrete	3	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Exterior	7	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2021

Unmitigated Construction On-Site

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

Fugitive Dust					0.0329	0.0000	0.0329	0.0169	0.0000	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.1090	0.0632	1.3000e-004		4.8900e-003	4.8900e-003		4.5000e-003	4.5000e-003	0.0000	11.2047	11.2047	3.6200e-003	0.0000	11.2953
Total	**0.0100**	**0.1090**	**0.0632**	**1.3000e-004**	**0.0329**	**4.8900e-003**	**0.0378**	**0.0169**	**4.5000e-003**	**0.0214**	**0.0000**	**11.2047**	**11.2047**	**3.6200e-003**	**0.0000**	**11.2953**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0148	0.0000	0.0148	3.7900e-003	0.0000	3.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0427	0.0794	1.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	11.2047	11.2047	3.6200e-003	0.0000	11.2952
Total	**2.0300e-003**	**0.0427**	**0.0794**	**1.3000e-004**	**0.0148**	**2.1000e-004**	**0.0150**	**3.7900e-003**	**2.1000e-004**	**4.0000e-003**	**0.0000**	**11.2047**	**11.2047**	**3.6200e-003**	**0.0000**	**11.2952**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0132	0.0154	3.0000e-005		7.4000e-004	7.4000e-004		7.3000e-004	7.3000e-004	0.0000	2.2695	2.2695	1.9000e-004	0.0000	2.2743
Total	**1.5300e-003**	**0.0132**	**0.0154**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**2.2695**	**2.2695**	**1.9000e-004**	**0.0000**	**2.2743**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.9000e-004	9.6300e-003	0.0167	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2695	2.2695	1.9000e-004	0.0000	2.2743
Total	**4.9000e-004**	**9.6300e-003**	**0.0167**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2695**	**2.2695**	**1.9000e-004**	**0.0000**	**2.2743**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Structural Steel - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0259	0.1621	0.1475	2.5000e-004		7.8100e-003	7.8100e-003		7.5800e-003	7.5800e-003	0.0000	19.1166	19.1166	3.7300e-003	0.0000	19.2098
Total	**0.0259**	**0.1621**	**0.1475**	**2.5000e-004**		**7.8100e-003**	**7.8100e-003**		**7.5800e-003**	**7.5800e-003**	**0.0000**	**19.1166**	**19.1166**	**3.7300e-003**	**0.0000**	**19.2098**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.2500e-003	0.1341	0.1434	2.5000e-004		3.2700e-003	3.2700e-003		3.2700e-003	3.2700e-003	0.0000	19.1166	19.1166	3.7300e-003	0.0000	19.2098
Total	**4.2500e-003**	**0.1341**	**0.1434**	**2.5000e-004**		**3.2700e-003**	**3.2700e-003**		**3.2700e-003**	**3.2700e-003**	**0.0000**	**19.1166**	**19.1166**	**3.7300e-003**	**0.0000**	**19.2098**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Concrete - 2021

Unmitigated Construction On-Site

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

Off-Road	0.0138	0.1285	0.1759	2.8000e-004		6.7300e-003	6.7300e-003		6.3100e-003	6.3100e-003	0.0000	24.1360	24.1360	6.5400e-003	0.0000	24.2996
Total	**0.0138**	**0.1285**	**0.1759**	**2.8000e-004**		**6.7300e-003**	**6.7300e-003**		**6.3100e-003**	**6.3100e-003**	**0.0000**	**24.1360**	**24.1360**	**6.5400e-003**	**0.0000**	**24.2996**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.2200e-003	0.1168	0.2013	2.8000e-004		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	24.1360	24.1360	6.5400e-003	0.0000	24.2996
Total	**4.2200e-003**	**0.1168**	**0.2013**	**2.8000e-004**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**24.1360**	**24.1360**	**6.5400e-003**	**0.0000**	**24.2996**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Concrete - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0146	0.0231	4.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	3.1915	3.1915	8.6000e-004	0.0000	3.2131
Total	**1.6200e-003**	**0.0146**	**0.0231**	**4.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**3.1915**	**3.1915**	**8.6000e-004**	**0.0000**	**3.2131**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.6000e-004	0.0154	0.0266	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.1915	3.1915	8.6000e-004	0.0000	3.2131
Total	**5.6000e-004**	**0.0154**	**0.0266**	**4.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.1915**	**3.1915**	**8.6000e-004**	**0.0000**	**3.2131**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1730	0.3151	4.8000e-004		3.3000e-003	3.3000e-003		3.0400e-003	3.0400e-003	0.0000	42.4876	42.4876	0.0137	0.0000	42.8311
Total	**0.8712**	**0.1730**	**0.3151**	**4.8000e-004**		**3.3000e-003**	**3.3000e-003**		**3.0400e-003**	**3.0400e-003**	**0.0000**	**42.4876**	**42.4876**	**0.0137**	**0.0000**	**42.8311**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0119	0.2718	0.3671	4.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	42.4875	42.4875	0.0137	0.0000	42.8310
Total	**0.8723**	**0.2718**	**0.3671**	**4.8000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**42.4875**	**42.4875**	**0.0137**	**0.0000**	**42.8310**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2021

Unmitigated Construction On-Site

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

Off-Road	0.0357	0.4291	0.3073	6.4000e-004		0.0169	0.0169		0.0156	0.0156	0.0000	56.1641	56.1641	0.0182	0.0000	56.6182
Total	**0.0357**	**0.4291**	**0.3073**	**6.4000e-004**		**0.0169**	**0.0169**		**0.0156**	**0.0156**	**0.0000**	**56.1641**	**56.1641**	**0.0182**	**0.0000**	**56.6182**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0126	0.2422	0.4008	6.4000e-004		5.6800e-003	5.6800e-003		5.6800e-003	5.6800e-003	0.0000	56.1641	56.1641	0.0182	0.0000	56.6182
Total	**0.0126**	**0.2422**	**0.4008**	**6.4000e-004**		**5.6800e-003**	**5.6800e-003**		**5.6800e-003**	**5.6800e-003**	**0.0000**	**56.1641**	**56.1641**	**0.0182**	**0.0000**	**56.6182**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0100	0.1163	0.0929	2.0000e-004		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	17.3289	17.3289	5.6000e-003	0.0000	17.4690
Total	**0.0100**	**0.1163**	**0.0929**	**2.0000e-004**		**4.5800e-003**	**4.5800e-003**		**4.2100e-003**	**4.2100e-003**	**0.0000**	**17.3289**	**17.3289**	**5.6000e-003**	**0.0000**	**17.4690**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.8800e-003	0.0747	0.1236	2.0000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	17.3289	17.3289	5.6000e-003	0.0000	17.4690
Total	**3.8800e-003**	**0.0747**	**0.1236**	**2.0000e-004**		**1.7500e-003**	**1.7500e-003**		**1.7500e-003**	**1.7500e-003**	**0.0000**	**17.3289**	**17.3289**	**5.6000e-003**	**0.0000**	**17.4690**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3000 Bowers Building 2 - Construction AQ

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	165.00	1000sqft	1.90	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project will use SVCE for electricty and PG&E for natural gas (PG&E 2017 rate)

Land Use - Building 2: 165,000 SF

Construction Phase - No demolition, site preparation, paving phases for Building 2; Structural steel and concrete phases included as part of building construction

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Demolition not included in project construction

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Trips and VMT - No Trips, EMFAC2017

Grading - Based on project applicant construction worksheet (Export 1,735 cy)

Architectural Coating -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - Tier 4 interim applied to off-highway diesel engines, BMPs

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	150
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	92.00
tblConstructionPhase	NumDays	200.00	109.00
tblConstructionPhase	NumDays	200.00	32.00
tblConstructionPhase	NumDays	200.00	116.00
tblConstructionPhase	NumDays	4.00	10.00
tblGrading	MaterialExported	0.00	1,735.00
tblLandUse	LotAcreage	3.79	1.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	2.70
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblOffRoadEquipment	UsageHours	8.00	6.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	217.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00
tblTripsAndVMT	WorkerTripNumber	11.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00

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					
2021	0.9613	1.0453	1.0498	1.85E-03	0.0329	0.042	0.0748	0.0169	0.0392	0.056	0	159.4785	159.4785	0.0471	0	160.6564
2022	9.79E-03	0.1137	0.0908	1.90E-04	0	4.47E-03	4.47E-03	0	4.12E-03	4.12E-03	0	16.9486	16.9486	5.48E-03	0	17.0857
Maximum	**0.9613**	**1.0453**	**1.0498**	**1.85E-03**	**0.0329**	**0.042**	**0.0748**	**0.0169**	**0.0392**	**0.056**	**0**	**159.4785**	**159.4785**	**0.0471**	**0**	**160.6564**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.9049	0.9209	1.2104	1.85E-03	0.0148	0.0256	0.0403	3.79E-03	0.0251	0.0289	0	159.4783	159.4783	0.0471	0	160.6562
2022	5.64E-03	0.0907	0.1131	1.90E-04	0	2.80E-03	2.80E-03	0	2.71E-03	2.71E-03	0	16.9486	16.9486	5.48E-03	0	17.0857
Maximum	**0.9049**	**0.9209**	**1.2104**	**1.8500e-003**	**0.0148**	**0.0256**	**0.0403**	**3.7900e-003**	**0.0251**	**0.0289**	**0.0000**	**159.4783**	**159.4783**	**0.0471**	**0.0000**	**160.6562**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.23**	**12.72**	**-16.03**	**0.00**	**54.99**	**38.94**	**45.59**	**77.51**	**35.70**	**47.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-13-2021**	**5-12-2021**	0.1377	0.0622
2	**5-13-2021**	**8-12-2021**	0.3314	0.2845
3	**8-13-2021**	**11-12-2021**	1.0890	1.0666
4	**11-13-2021**	**2-12-2022**	0.5753	0.5179
		Highest	1.0890	1.0666

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/21/2021	3/5/2021	5	10	
2	Trenching	Trenching	3/21/2021	4/30/2021	5	30	
3	Concrete	Building Construction	5/1/2021	9/30/2021	5	109	
4	Structural Steel	Building Construction	6/8/2021	7/21/2021	5	32	
5	Architectural Coating	Architectural Coating	8/7/2021	12/14/2021	5	92	
6	Building Exterior	Building Construction	8/28/2021	2/7/2022	5	116	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 247,500; Non-Residential Outdoor: 82,500; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	5.60	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Pumps	1	1.90	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	0.50	97	0.37
Concrete	Cranes	0	7.00	231	0.29
Concrete	Dumpers/Tenders	0	2.10	16	0.38
Concrete	Excavators	1	5.50	158	0.38
Concrete	Forklifts	0	8.00	89	0.20
Concrete	Generator Sets	0	8.00	84	0.74
Concrete	Pumps	1	1.40	84	0.74
Concrete	Tractors/Loaders/Backhoes	1	2.70	97	0.37
Concrete	Welders	0	8.00	46	0.45
Structural Steel	Cranes	1	5.00	231	0.29
Structural Steel	Forklifts	1	5.00	89	0.20
Structural Steel	Generator Sets	0	8.00	84	0.74
Structural Steel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Structural Steel	Welders	5	6.80	46	0.45
Architectural Coating	Aerial Lifts	6	8.00	63	0.31
Architectural Coating	Air Compressors	0	6.00	78	0.48
Building Exterior	Aerial Lifts	4	6.00	63	0.31
Building Exterior	Cranes	2	6.00	231	0.29

Building Exterior	Forklifts	1	6.00	89	0.20
Building Exterior	Generator Sets	0	8.00	84	0.74
Building Exterior	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Exterior	Welders	0	8.00	46	0.45

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
Grading	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Concrete	3	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Structural Steel	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Exterior	7	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0329	0.0000	0.0329	0.0169	0.0000	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0100	0.1090	0.0632	1.3000e-004		4.8900e-003	4.8900e-003		4.5000e-003	4.5000e-003	0.0000	11.2047	11.2047	3.6200e-003	0.0000	11.2953
Total	**0.0100**	**0.1090**	**0.0632**	**1.3000e-004**	**0.0329**	**4.8900e-003**	**0.0378**	**0.0169**	**4.5000e-003**	**0.0214**	**0.0000**	**11.2047**	**11.2047**	**3.6200e-003**	**0.0000**	**11.2953**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0148	0.0000	0.0148	3.7900e-003	0.0000	3.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0427	0.0794	1.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	11.2047	11.2047	3.6200e-003	0.0000	11.2952
Total	**2.0300e-003**	**0.0427**	**0.0794**	**1.3000e-004**	**0.0148**	**2.1000e-004**	**0.0150**	**3.7900e-003**	**2.1000e-004**	**4.0000e-003**	**0.0000**	**11.2047**	**11.2047**	**3.6200e-003**	**0.0000**	**11.2952**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0132	0.0154	3.0000e-005		7.4000e-004	7.4000e-004		7.3000e-004	7.3000e-004	0.0000	2.2695	2.2695	1.9000e-004	0.0000	2.2743
Total	**1.5300e-003**	**0.0132**	**0.0154**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**2.2695**	**2.2695**	**1.9000e-004**	**0.0000**	**2.2743**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.9000e-004	9.6300e-003	0.0167	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2695	2.2695	1.9000e-004	0.0000	2.2743
Total	**4.9000e-004**	**9.6300e-003**	**0.0167**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2695**	**2.2695**	**1.9000e-004**	**0.0000**	**2.2743**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Concrete - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.1462	0.1998	3.1000e-004		7.6600e-003	7.6600e-003		7.1900e-003	7.1900e-003	0.0000	27.4137	27.4137	7.4200e-003	0.0000	27.5991
Total	**0.0157**	**0.1462**	**0.1998**	**3.1000e-004**		**7.6600e-003**	**7.6600e-003**		**7.1900e-003**	**7.1900e-003**	**0.0000**	**27.4137**	**27.4137**	**7.4200e-003**	**0.0000**	**27.5991**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.8100e-003	0.1326	0.2286	3.1000e-004		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	27.4137	27.4137	7.4200e-003	0.0000	27.5991
Total	**4.8100e-003**	**0.1326**	**0.2286**	**3.1000e-004**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**27.4137**	**27.4137**	**7.4200e-003**	**0.0000**	**27.5991**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Structural Steel - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.1629	0.1484	2.5000e-004		7.8500e-003	7.8500e-003		7.6200e-003	7.6200e-003	0.0000	19.2107	19.2107	3.7400e-003	0.0000	19.3042

Total	**0.0260**	**0.1629**	**0.1484**	**2.5000e-004**		**7.8500e-003**	**7.8500e-003**		**7.6200e-003**	**7.6200e-003**	**0.0000**	**19.2107**	**19.2107**	**3.7400e-003**	**0.0000**	**19.3042**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.3500e-003	0.1462	0.1404	2.5000e-004		3.9300e-003	3.9300e-003		3.8800e-003	3.8800e-003	0.0000	19.2107	19.2107	3.7400e-003	0.0000	19.3042
Total	**5.3500e-003**	**0.1462**	**0.1404**	**2.5000e-004**		**3.9300e-003**	**3.9300e-003**		**3.8800e-003**	**3.8800e-003**	**0.0000**	**19.2107**	**19.2107**	**3.7400e-003**	**0.0000**	**19.3042**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.1658	0.3020	4.6000e-004		3.1600e-003	3.1600e-003		2.9100e-003	2.9100e-003	0.0000	40.7172	40.7172	0.0132	0.0000	41.0465
Total	**0.8707**	**0.1658**	**0.3020**	**4.6000e-004**		**3.1600e-003**	**3.1600e-003**		**2.9100e-003**	**2.9100e-003**	**0.0000**	**40.7172**	**40.7172**	**0.0132**	**0.0000**	**41.0465**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.2605	0.3518	4.6000e-004		0.0107	0.0107		0.0107	0.0107	0.0000	40.7172	40.7172	0.0132	0.0000	41.0464
Total	**0.8718**	**0.2605**	**0.3518**	**4.6000e-004**		**0.0107**	**0.0107**		**0.0107**	**0.0107**	**0.0000**	**40.7172**	**40.7172**	**0.0132**	**0.0000**	**41.0464**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0373	0.4482	0.3210	6.7000e-004		0.0177	0.0177		0.0163	0.0163	0.0000	58.6627	58.6627	0.0190	0.0000	59.1370
Total	**0.0373**	**0.4482**	**0.3210**	**6.7000e-004**		**0.0177**	**0.0177**		**0.0163**	**0.0163**	**0.0000**	**58.6627**	**58.6627**	**0.0190**	**0.0000**	**59.1370**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0204	0.3293	0.3936	6.7000e-004		0.0102	0.0102		9.8700e-003	9.8700e-003	0.0000	58.6627	58.6627	0.0190	0.0000	59.1370
Total	**0.0204**	**0.3293**	**0.3936**	**6.7000e-004**		**0.0102**	**0.0102**		**9.8700e-003**	**9.8700e-003**	**0.0000**	**58.6627**	**58.6627**	**0.0190**	**0.0000**	**59.1370**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.7900e-003	0.1137	0.0908	1.9000e-004		4.4700e-003	4.4700e-003		4.1200e-003	4.1200e-003	0.0000	16.9486	16.9486	5.4800e-003	0.0000	17.0857

Total	**9.7900e-003**	**0.1137**	**0.0908**	**1.9000e-004**		**4.4700e-003**	**4.4700e-003**		**4.1200e-003**	**4.1200e-003**	**0.0000**	**16.9486**	**16.9486**	**5.4800e-003**	**0.0000**	**17.0857**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.6400e-003	0.0907	0.1131	1.9000e-004		2.8000e-003	2.8000e-003		2.7100e-003	2.7100e-003	0.0000	16.9486	16.9486	5.4800e-003	0.0000	17.0857
Total	**5.6400e-003**	**0.0907**	**0.1131**	**1.9000e-004**		**2.8000e-003**	**2.8000e-003**		**2.7100e-003**	**2.7100e-003**	**0.0000**	**16.9486**	**16.9486**	**5.4800e-003**	**0.0000**	**17.0857**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3000 Bowers Parking Garage - Santa Clara County, Annual

3000 Bowers Parking Garage

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	958.00	Space	3.40	321,960.00	0
Parking Lot	22.00	Space	0.00	8,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE and PG&E

Land Use - Project size based on applicant construction spreadsheet

Construction Phase - Demolition not included in project

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Off-road Equipment - Based on project applicant equipment list and usage

Trips and VMT - No Trips, EMFAC2017

Grading - Based on project applicant construction spreadsheet

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation - Tier 4 interim applied to all diesel engines, BMPs

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	275.00
tblConstructionPhase	NumDays	230.00	67.00
tblConstructionPhase	NumDays	8.00	50.00
tblConstructionPhase	NumDays	18.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblGrading	MaterialExported	0.00	6,125.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LandUseSquareFeet	383,200.00	321,960.00
tblLandUse	LotAcreage	8.62	3.40
tblLandUse	LotAcreage	0.20	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.20
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	6.00	3.20
tblOffRoadEquipment	UsageHours	6.00	3.20
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	3.20
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	891.00	0.00
tblTripsAndVMT	VendorTripNumber	54.00	0.00
tblTripsAndVMT	VendorTripNumber	54.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	139.00	0.00
tblTripsAndVMT	WorkerTripNumber	139.00	0.00

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					
2021	0.1291	1.2881	1.174	1.98E-03	0.0987	0.0675	0.1662	0.0506	0.0627	0.1133	0	173.8224	173.8224	0.0504	0	175.0833
2022	0.0367	0.3998	0.3559	6.90E-04	0	0.0176	0.0176	0	0.0163	0.0163	0	60.6857	60.6857	0.0189	0	61.1591
Maximum	**0.1291**	**1.2881**	**1.174**	**1.98E-03**	**0.0987**	**0.0675**	**0.1662**	**0.0506**	**0.0627**	**0.1133**	**0**	**173.8224**	**173.8224**	**0.0504**	**0**	**175.0833**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.034	0.765	1.3554	1.98E-03	0.0444	3.44E-03	0.0479	0.0114	3.44E-03	0.0148	0	173.8222	173.8222	0.0504	0	175.0831
2022	0.0132	0.265	0.4487	6.90E-04	0	4.46E-03	4.46E-03	0	4.46E-03	4.46E-03	0	60.6857	60.6857	0.0189	0	61.159
Maximum	**0.034**	**0.765**	**1.3554**	**1.98E-03**	**0.0444**	**4.46E-03**	**0.0479**	**0.0114**	**4.46E-03**	**0.0148**	**0**	**173.8222**	**173.8222**	**0.0504**	**0**	**175.0831**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**71.55**	**38.97**	**-17.92**	**0**	**55**	**90.72**	**71.54**	**77.5**	**89.99**	**85.11**	**0**	**0**	**0**	**0**	**0**	**0**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-30-2021	4-29-2021	0.7575	0.4132

2	**4-30-2021**	**7-29-2021**	0.2403	0.1413
3	**7-30-2021**	**10-29-2021**	0.2365	0.1385
4	**10-30-2021**	**1-29-2022**	0.3450	0.2103
5	**1-30-2022**	**4-29-2022**	0.2768	0.1758
		Highest	0.7575	0.4132

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
2	Paving	Paving	1/30/2021	2/5/2021	5	5	
3	Grading	Grading	2/13/2021	4/24/2021	5	50	
4	Trenching	Trenching	2/13/2021	5/20/2021	5	69	
5	Concrete	Building Construction	2/13/2021	3/4/2022	5	275	
6	Building Exterior	Building Construction	12/27/2021	3/29/2022	5	67	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 10

Acres of Paving: 3.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	3.20	9	0.56
Paving	Pavers	1	3.20	130	0.42
Paving	Paving Equipment	1	3.20	132	0.36

Paving	Rollers	1	3.20	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.20	97	0.37
Grading	Concrete/Industrial Saws	1	3.20	81	0.73
Grading	Excavators	1	3.20	158	0.38
Grading	Excavators	2	7.40	158	0.38
Grading	Graders	1	3.20	187	0.41
Grading	Rubber Tired Dozers	1	3.20	247	0.40
Grading	Tractors/Loaders/Backhoes	1	3.20	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.40	97	0.37
Trenching	Pumps	1	1.30	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Concrete	Cranes	1	3.00	231	0.29
Concrete	Excavators	1	4.60	158	0.38
Concrete	Forklifts	2	8.00	89	0.20
Concrete	Generator Sets	0	8.00	84	0.74
Concrete	Pumps	1	1.60	84	0.74
Concrete	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Concrete	Welders	0	8.00	46	0.45
Building Exterior	Aerial Lifts	4	6.00	63	0.31
Building Exterior	Cranes	2	6.00	231	0.29
Building Exterior	Forklifts	1	6.00	89	0.20
Building Exterior	Generator Sets	0	8.00	84	0.74
Building Exterior	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Exterior	Welders	0	8.00	46	0.45

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
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Concrete	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Exterior	7	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4300e-003	0.0940	0.0403	9.0000e-005		4.1600e-003	4.1600e-003		3.8300e-003	3.8300e-003	0.0000	8.0283	8.0283	2.6000e-003	0.0000	8.0932
Total	**8.4300e-003**	**0.0940**	**0.0403**	**9.0000e-005**	**0.0328**	**4.1600e-003**	**0.0369**	**0.0168**	**3.8300e-003**	**0.0207**	**0.0000**	**8.0283**	**8.0283**	**2.6000e-003**	**0.0000**	**8.0932**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0147	0.0000	0.0147	3.7900e-003	0.0000	3.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5900e-003	0.0267	0.0519	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.0283	8.0283	2.6000e-003	0.0000	8.0932
Total	**1.5900e-003**	**0.0267**	**0.0519**	**9.0000e-005**	**0.0147**	**1.5000e-004**	**0.0149**	**3.7900e-003**	**1.5000e-004**	**3.9400e-003**	**0.0000**	**8.0283**	**8.0283**	**2.6000e-003**	**0.0000**	**8.0932**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7000e-004	8.7200e-003	9.9000e-003	2.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.3200	1.3200	4.2000e-004	0.0000	1.3304
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7000e-004**	**8.7200e-003**	**9.9000e-003**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**1.3200**	**1.3200**	**4.2000e-004**	**0.0000**	**1.3304**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.4000e-004	6.3700e-003	0.0110	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.3200	1.3200	4.2000e-004	0.0000	1.3304
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.4000e-004**	**6.3700e-003**	**0.0110**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.3200**	**1.3200**	**4.2000e-004**	**0.0000**	**1.3304**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0659	0.0000	0.0659	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0379	0.3833	0.3537	6.1000e-004		0.0185	0.0185		0.0172	0.0172	0.0000	53.2700	53.2700	0.0158	0.0000	53.6651
Total	**0.0379**	**0.3833**	**0.3537**	**6.1000e-004**	**0.0659**	**0.0185**	**0.0844**	**0.0337**	**0.0172**	**0.0509**	**0.0000**	**53.2700**	**53.2700**	**0.0158**	**0.0000**	**53.6651**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0297	0.0000	0.0297	7.5900e-003	0.0000	7.5900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-003	0.2352	0.4170	6.1000e-004		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	53.2699	53.2699	0.0158	0.0000	53.6650
Total	**9.5000e-003**	**0.2352**	**0.4170**	**6.1000e-004**	**0.0297**	**9.8000e-004**	**0.0307**	**7.5900e-003**	**9.8000e-004**	**8.5700e-003**	**0.0000**	**53.2699**	**53.2699**	**0.0158**	**0.0000**	**53.6650**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9400e-003	0.0262	0.0307	5.0000e-005		1.4800e-003	1.4800e-003		1.4400e-003	1.4400e-003	0.0000	4.3459	4.3459	5.5000e-004	0.0000	4.3597
Total	**2.9400e-003**	**0.0262**	**0.0307**	**5.0000e-005**		**1.4800e-003**	**1.4800e-003**		**1.4400e-003**	**1.4400e-003**	**0.0000**	**4.3459**	**4.3459**	**5.5000e-004**	**0.0000**	**4.3597**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.8000e-004	0.0190	0.0328	5.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	4.3459	4.3459	5.5000e-004	0.0000	4.3597
Total	**9.8000e-004**	**0.0190**	**0.0328**	**5.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**4.3459**	**4.3459**	**5.5000e-004**	**0.0000**	**4.3597**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Concrete - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0768	0.7511	0.7215	1.1800e-003		0.0420	0.0420		0.0389	0.0389	0.0000	103.5992	103.5992	0.0300	0.0000	104.3495
Total	**0.0768**	**0.7511**	**0.7215**	**1.1800e-003**		**0.0420**	**0.0420**		**0.0389**	**0.0389**	**0.0000**	**103.5992**	**103.5992**	**0.0300**	**0.0000**	**104.3495**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0210	0.4637	0.8194	1.1800e-003		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	103.5991	103.5991	0.0300	0.0000	104.3494
Total	**0.0210**	**0.4637**	**0.8194**	**1.1800e-003**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**103.5991**	**103.5991**	**0.0300**	**0.0000**	**104.3494**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Concrete - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0134	0.1286	0.1394	2.3000e-004		6.9300e-003	6.9300e-003		6.4300e-003	6.4300e-003	0.0000	20.2698	20.2698	5.8600e-003	0.0000	20.4163

Total	**0.0134**	**0.1286**	**0.1394**	**2.3000e-004**		**6.9300e-003**	**6.9300e-003**		**6.4300e-003**	**6.4300e-003**	**0.0000**	**20.2698**	**20.2698**	**5.8600e-003**	**0.0000**	**20.4163**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.1100e-003	0.0907	0.1603	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	20.2697	20.2697	5.8600e-003	0.0000	20.4163
Total	**4.1100e-003**	**0.0907**	**0.1603**	**2.3000e-004**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**20.2697**	**20.2697**	**5.8600e-003**	**0.0000**	**20.4163**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0249	0.0178	4.0000e-005		9.8000e-004	9.8000e-004		9.0000e-004	9.0000e-004	0.0000	3.2590	3.2590	1.0500e-003	0.0000	3.2854
Total	**2.0700e-003**	**0.0249**	**0.0178**	**4.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**3.2590**	**3.2590**	**1.0500e-003**	**0.0000**	**3.2854**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	7.3000e-004	0.0141	0.0233	4.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	3.2590	3.2590	1.0500e-003	0.0000	3.2854
Total	**7.3000e-004**	**0.0141**	**0.0233**	**4.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**	**0.0000**	**3.2590**	**3.2590**	**1.0500e-003**	**0.0000**	**3.2854**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Exterior - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0233	0.2712	0.2166	4.6000e-004		0.0107	0.0107		9.8200e-003	9.8200e-003	0.0000	40.4160	40.4160	0.0131	0.0000	40.7428
Total	**0.0233**	**0.2712**	**0.2166**	**4.6000e-004**		**0.0107**	**0.0107**		**9.8200e-003**	**9.8200e-003**	**0.0000**	**40.4160**	**40.4160**	**0.0131**	**0.0000**	**40.7428**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	9.0400e-003	0.1743	0.2884	4.6000e-004		4.0900e-003	4.0900e-003		4.0900e-003	4.0900e-003	0.0000	40.4159	40.4159	0.0131	0.0000	40.7427
Total	**9.0400e-003**	**0.1743**	**0.2884**	**4.6000e-004**		**4.0900e-003**	**4.0900e-003**		**4.0900e-003**	**4.0900e-003**	**0.0000**	**40.4159**	**40.4159**	**0.0131**	**0.0000**	**40.7427**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3000 Bowers Office Project - Operational AQ-GHG

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	330.00	1000sqft	7.20	330,000.00	0
Enclosed Parking with Elevator	958.00	Space	0.00	321,960.00	0
Parking Lot	22.00	Space	0.00	8,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 rate (210) with the assumption that electricity would be provided by SVCE (10% use PG&E instead)

Land Use - 3000 Bowers Land Uses

Construction Phase - No Construction

Off-road Equipment - No Construction Equipment

Vehicle Trips - Based on Traffic Trip Gen rate: 9.25, 2.06, 0.88

Vehicle Emission Factors - EMFAC2017 for 2023

Vehicle Emission Factors -

Energy Use -

Water And Wastewater - 100% aerobic

Operational Off-Road Equipment -

Fleet Mix - EMFAC2017 Fleet Mix for 2023

Stationary Sources - Emergency Generators and Fire Pumps - (3x) 1,000 kW Diesel Emergency Generators

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblFleetMix	HHD	0.02	6.4040e-003
tblFleetMix	HHD	0.02	6.4040e-003
tblFleetMix	HHD	0.02	6.4040e-003
tblFleetMix	LDA	0.61	0.57
tblFleetMix	LDA	0.61	0.57
tblFleetMix	LDA	0.61	0.57
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT2	0.18	0.19
tblFleetMix	LDT2	0.18	0.19
tblFleetMix	LDT2	0.18	0.19
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0110e-003	5.1020e-003
tblFleetMix	LHD2	5.0110e-003	5.1020e-003
tblFleetMix	LHD2	5.0110e-003	5.1020e-003
tblFleetMix	MCY	5.2800e-003	0.02
tblFleetMix	MCY	5.2800e-003	0.02
tblFleetMix	MCY	5.2800e-003	0.02
tblFleetMix	MDV	0.11	0.12

tblFleetMix	MDV	0.11	0.12
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	7.2000e-004	2.7760e-003
tblFleetMix	MH	7.2000e-004	2.7760e-003
tblFleetMix	MH	7.2000e-004	2.7760e-003
tblFleetMix	MHD	0.01	7.9340e-003
tblFleetMix	MHD	0.01	7.9340e-003
tblFleetMix	MHD	0.01	7.9340e-003
tblFleetMix	OBUS	2.1680e-003	9.0000e-004
tblFleetMix	OBUS	2.1680e-003	9.0000e-004
tblFleetMix	OBUS	2.1680e-003	9.0000e-004
tblFleetMix	SBUS	6.2900e-004	9.1400e-004
tblFleetMix	SBUS	6.2900e-004	9.1400e-004
tblFleetMix	SBUS	6.2900e-004	9.1400e-004
tblFleetMix	UBUS	1.5290e-003	3.8000e-004
tblFleetMix	UBUS	1.5290e-003	3.8000e-004
tblFleetMix	UBUS	1.5290e-003	3.8000e-004
tblLandUse	LandUseSquareFeet	383,200.00	321,960.00
tblLandUse	LotAcreage	7.58	7.20
tblLandUse	LotAcreage	8.62	0.00
tblLandUse	LotAcreage	0.20	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,341.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleEF	HHD	0.34	0.02
tblVehicleEF	HHD	0.05	0.05

tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	1.61	6.34
tblVehicleEF	HHD	0.91	0.40
tblVehicleEF	HHD	3.69	5.9190e-003
tblVehicleEF	HHD	4,386.48	1,065.38
tblVehicleEF	HHD	1,557.95	1,436.68
tblVehicleEF	HHD	11.75	0.05
tblVehicleEF	HHD	13.99	5.44
tblVehicleEF	HHD	1.98	2.68
tblVehicleEF	HHD	19.39	2.32
tblVehicleEF	HHD	8.0650e-003	2.6700e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.1860e-003	0.02
tblVehicleEF	HHD	1.0500e-004	1.0000e-006
tblVehicleEF	HHD	7.7170e-003	2.5550e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8320e-003	8.8780e-003
tblVehicleEF	HHD	5.9180e-003	0.02
tblVehicleEF	HHD	9.7000e-005	1.0000e-006
tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.42	0.43
tblVehicleEF	HHD	6.1000e-005	1.0000e-006
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.1700e-004	5.9400e-004
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	HHD	0.04	9.9140e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7800e-004	0.00

tblVehicleEF	HHD	9.8000e-005	3.0000e-006
tblVehicleEF	HHD	5.1360e-003	1.1600e-004
tblVehicleEF	HHD	0.48	0.49
tblVehicleEF	HHD	6.1000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.1700e-004	5.9400e-004
tblVehicleEF	HHD	0.10	3.0000e-006
tblVehicleEF	LDA	3.3580e-003	1.9580e-003
tblVehicleEF	LDA	4.7330e-003	0.05
tblVehicleEF	LDA	0.50	0.56
tblVehicleEF	LDA	1.08	2.16
tblVehicleEF	LDA	234.26	242.23
tblVehicleEF	LDA	55.12	51.37
tblVehicleEF	LDA	0.04	0.03
tblVehicleEF	LDA	0.06	0.18
tblVehicleEF	LDA	1.6260e-003	1.3560e-003
tblVehicleEF	LDA	2.2310e-003	1.7440e-003
tblVehicleEF	LDA	1.4980e-003	1.2490e-003
tblVehicleEF	LDA	2.0520e-003	1.6040e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	8.4470e-003	7.4590e-003
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.21
tblVehicleEF	LDA	2.3450e-003	9.3000e-005
tblVehicleEF	LDA	5.6900e-004	0.00
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03

tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDT1	7.8390e-003	4.1630e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.00	0.95
tblVehicleEF	LDT1	2.29	2.35
tblVehicleEF	LDT1	292.52	289.26
tblVehicleEF	LDT1	68.20	62.09
tblVehicleEF	LDT1	0.10	0.08
tblVehicleEF	LDT1	0.13	0.23
tblVehicleEF	LDT1	2.1830e-003	1.7660e-003
tblVehicleEF	LDT1	2.9190e-003	2.2440e-003
tblVehicleEF	LDT1	2.0100e-003	1.6250e-003
tblVehicleEF	LDT1	2.6840e-003	2.0630e-003
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.15	0.31
tblVehicleEF	LDT1	2.9360e-003	2.6160e-003
tblVehicleEF	LDT1	7.2200e-004	0.00
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.16	0.34
tblVehicleEF	LDT2	4.9930e-003	3.2450e-003

tblVehicleEF	LDT2	6.4640e-003	0.07
tblVehicleEF	LDT2	0.68	0.79
tblVehicleEF	LDT2	1.42	2.79
tblVehicleEF	LDT2	332.30	312.82
tblVehicleEF	LDT2	77.35	67.73
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.6420e-003	1.3890e-003
tblVehicleEF	LDT2	2.2820e-003	1.7450e-003
tblVehicleEF	LDT2	1.5110e-003	1.2790e-003
tblVehicleEF	LDT2	2.0990e-003	1.6050e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.3280e-003	0.01
tblVehicleEF	LDT2	7.9700e-004	9.3000e-005
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LHD1	5.3570e-003	5.1620e-003
tblVehicleEF	LHD1	0.02	8.5450e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	1.02	0.77

tblVehicleEF	LHD1	2.58	1.08
tblVehicleEF	LHD1	8.98	8.94
tblVehicleEF	LHD1	687.79	794.16
tblVehicleEF	LHD1	32.26	11.83
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.10	0.73
tblVehicleEF	LHD1	0.99	0.32
tblVehicleEF	LHD1	8.6000e-004	8.2500e-004
tblVehicleEF	LHD1	0.01	9.7470e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.5500e-004	2.5800e-004
tblVehicleEF	LHD1	8.2300e-004	7.9000e-004
tblVehicleEF	LHD1	2.5220e-003	2.4370e-003
tblVehicleEF	LHD1	0.01	9.7200e-003
tblVehicleEF	LHD1	8.7800e-004	2.3700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	6.7510e-003	7.7550e-003
tblVehicleEF	LHD1	3.7100e-004	1.1700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.15	0.11

tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.29	0.08
tblVehicleEF	LHD2	3.3720e-003	3.1550e-003
tblVehicleEF	LHD2	7.5730e-003	7.0600e-003
tblVehicleEF	LHD2	6.7190e-003	8.4310e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.55	0.62
tblVehicleEF	LHD2	1.16	0.63
tblVehicleEF	LHD2	13.98	14.00
tblVehicleEF	LHD2	705.76	768.73
tblVehicleEF	LHD2	24.06	7.83
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.69	0.88
tblVehicleEF	LHD2	0.44	0.18
tblVehicleEF	LHD2	1.2420e-003	1.4230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.1600e-004	1.3300e-004
tblVehicleEF	LHD2	1.1880e-003	1.3610e-003
tblVehicleEF	LHD2	2.6910e-003	2.6880e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8300e-004	1.2300e-004
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.3600e-004	1.3400e-004

tblVehicleEF	LHD2	6.8630e-003	7.4240e-003
tblVehicleEF	LHD2	2.6100e-004	7.8000e-005
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.10	0.05
tblVehicleEF	MCY	0.45	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	18.74	18.87
tblVehicleEF	MCY	10.18	9.03
tblVehicleEF	MCY	169.68	210.17
tblVehicleEF	MCY	45.14	61.04
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0080e-003	1.9690e-003
tblVehicleEF	MCY	3.7340e-003	3.0390e-003
tblVehicleEF	MCY	1.8770e-003	1.8400e-003
tblVehicleEF	MCY	3.5160e-003	2.8590e-003
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.20	2.21
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.20	1.94
tblVehicleEF	MCY	2.0680e-003	2.0800e-003
tblVehicleEF	MCY	6.8300e-004	6.0400e-004
tblVehicleEF	MCY	0.90	1.81

tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.73	2.74
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.39	2.11
tblVehicleEF	MDV	9.4310e-003	3.9100e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.06	0.87
tblVehicleEF	MDV	2.68	3.13
tblVehicleEF	MDV	444.47	378.63
tblVehicleEF	MDV	101.69	81.00
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.23	0.32
tblVehicleEF	MDV	1.8000e-003	1.5110e-003
tblVehicleEF	MDV	2.4830e-003	1.9090e-003
tblVehicleEF	MDV	1.6590e-003	1.3930e-003
tblVehicleEF	MDV	2.2840e-003	1.7560e-003
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.4500e-003	3.7430e-003
tblVehicleEF	MDV	1.0640e-003	8.0200e-004
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.44

tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.96	1.11
tblVehicleEF	MH	5.58	2.13
tblVehicleEF	MH	1,212.08	1,532.75
tblVehicleEF	MH	58.85	18.68
tblVehicleEF	MH	1.29	1.36
tblVehicleEF	MH	0.81	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.1290e-003	2.7400e-004
tblVehicleEF	MH	3.2190e-003	3.2750e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0380e-003	2.5200e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.32	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.8600e-004	1.8500e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.12	0.09
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.35	0.11
tblVehicleEF	MHD	0.02	3.5450e-003

tblVehicleEF	MHD	4.5180e-003	1.9320e-003
tblVehicleEF	MHD	0.05	9.4870e-003
tblVehicleEF	MHD	0.38	0.39
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	5.92	1.14
tblVehicleEF	MHD	132.71	73.35
tblVehicleEF	MHD	1,189.79	1,095.06
tblVehicleEF	MHD	61.47	9.38
tblVehicleEF	MHD	0.36	0.43
tblVehicleEF	MHD	1.11	1.44
tblVehicleEF	MHD	10.17	1.70
tblVehicleEF	MHD	1.2300e-004	4.2700e-004
tblVehicleEF	MHD	3.1090e-003	6.9550e-003
tblVehicleEF	MHD	9.0500e-004	1.1900e-004
tblVehicleEF	MHD	1.1800e-004	4.0900e-004
tblVehicleEF	MHD	2.9680e-003	6.6480e-003
tblVehicleEF	MHD	8.3200e-004	1.1000e-004
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.35	0.05
tblVehicleEF	MHD	1.2790e-003	6.9600e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.1800e-004	9.3000e-005
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.04	0.02

tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.38	0.06
tblVehicleEF	OBUS	0.01	7.0630e-003
tblVehicleEF	OBUS	6.3660e-003	4.0130e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.24	0.57
tblVehicleEF	OBUS	0.44	0.47
tblVehicleEF	OBUS	5.01	1.90
tblVehicleEF	OBUS	99.56	91.93
tblVehicleEF	OBUS	1,293.67	1,341.74
tblVehicleEF	OBUS	66.88	15.48
tblVehicleEF	OBUS	0.21	0.37
tblVehicleEF	OBUS	0.88	1.44
tblVehicleEF	OBUS	2.72	1.09
tblVehicleEF	OBUS	1.9000e-005	1.2000e-004
tblVehicleEF	OBUS	2.6550e-003	7.0290e-003
tblVehicleEF	OBUS	8.0900e-004	1.4200e-004
tblVehicleEF	OBUS	1.8000e-005	1.1500e-004
tblVehicleEF	OBUS	2.5210e-003	6.7120e-003
tblVehicleEF	OBUS	7.4400e-004	1.3000e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.31	0.09
tblVehicleEF	OBUS	9.6200e-004	8.7300e-004

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5700e-004	1.5300e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.34	0.10
tblVehicleEF	SBUS	0.83	0.05
tblVehicleEF	SBUS	0.02	6.3560e-003
tblVehicleEF	SBUS	0.08	4.7830e-003
tblVehicleEF	SBUS	8.17	2.18
tblVehicleEF	SBUS	1.05	0.52
tblVehicleEF	SBUS	9.75	0.70
tblVehicleEF	SBUS	1,109.35	347.39
tblVehicleEF	SBUS	1,051.90	1,060.99
tblVehicleEF	SBUS	56.07	3.98
tblVehicleEF	SBUS	8.47	3.53
tblVehicleEF	SBUS	3.71	4.87
tblVehicleEF	SBUS	12.10	0.81
tblVehicleEF	SBUS	8.0590e-003	3.9050e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	9.0100e-004	4.6000e-005
tblVehicleEF	SBUS	7.7100e-003	3.7360e-003
tblVehicleEF	SBUS	2.6280e-003	2.7270e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.2900e-004	4.2000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004

tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	0.97	0.24
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	SBUS	0.01	3.3060e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.2900e-004	3.9000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	1.40	0.35
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.14	0.10
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.53	0.03
tblVehicleEF	UBUS	0.27	1.35
tblVehicleEF	UBUS	0.04	1.4170e-003
tblVehicleEF	UBUS	4.81	10.12
tblVehicleEF	UBUS	7.98	0.14
tblVehicleEF	UBUS	2,067.88	1,597.13
tblVehicleEF	UBUS	103.85	1.39
tblVehicleEF	UBUS	9.47	0.73
tblVehicleEF	UBUS	14.57	0.01
tblVehicleEF	UBUS	0.59	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.21	5.3280e-003
tblVehicleEF	UBUS	1.1460e-003	1.5000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003

tblVehicleEF	UBUS	0.20	5.0960e-003
tblVehicleEF	UBUS	1.0540e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.58	0.02
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.58	5.8830e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.1810e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.90	1.38
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.63	6.4410e-003
tblVehicleTrips	ST_TR	2.46	2.06
tblVehicleTrips	SU_TR	1.05	0.88
tblVehicleTrips	WD_TR	11.03	9.25
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4903	1.10E-04	0.012	0		4.00E-05	4.00E-05		4.00E-05	4.00E-05	0	0.0234	0.0234	6.00E-05	0	0.0249
Energy	0.0291	0.2648	0.2224	1.59E-03		0.0201	0.0201		0.0201	0.0201	0	362.3242	362.3242	0.1078	0.0264	372.8983
Mobile	1.2556	1.0709	9.1784	0.0189	2.0479	0.0136	2.0616	0.5467	0.0127	0.5593	0	1,755.11	1,755.11	0.1136	0	1,757.95
Stationary	0.1651	0.7381	0.4208	7.90E-04		0.0243	0.0243		0.0243	0.0243	0	76.5974	76.5974	0.0107	0	76.8658
Waste						0	0		0	0	62.2979	0	62.2979	3.6817	0	154.3405
Water						0	0		0	0	20.7512	4.2215	24.9728	0.0773	0.0463	40.7114
Total	**2.94**	**2.0739**	**9.8337**	**0.0213**	**2.0479**	**0.0581**	**2.106**	**0.5467**	**0.0571**	**0.6038**	**83.0492**	**2,198.28**	**2,281.33**	**3.9911**	**0.0728**	**2,402.79**

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	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Energy	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	362.3242	362.3242	0.1078	0.0264	372.8983
Mobile	1.2556	1.0709	9.1784	0.0189	2.0479	0.0136	2.0616	0.5467	0.0127	0.5593	0.0000	1,755.1107	1,755.1107	0.1136	0.0000	1,757.9511
Stationary	0.1651	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Waste						0.0000	0.0000		0.0000	0.0000	62.2979	0.0000	62.2979	3.6817	0.0000	154.3405

Water						0.0000	0.0000		0.0000	0.0000	20.7512	4.2215	24.9728	0.0773	0.0463	40.7114
Total	**2.9400**	**2.0739**	**9.8337**	**0.0213**	**2.0479**	**0.0581**	**2.1060**	**0.5467**	**0.0571**	**0.6038**	**83.0492**	**2,198.2772**	**2,281.3264**	**3.9911**	**0.0728**	**2,402.7920**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2556	1.0709	9.1784	0.0189	2.0479	0.0136	2.0616	0.5467	0.0127	0.5593	0.0000	1,755.1107	1,755.1107	0.1136	0.0000	1,757.9511
Unmitigated	1.2556	1.0709	9.1784	0.0189	2.0479	0.0136	2.0616	0.5467	0.0127	0.5593	0.0000	1,755.1107	1,755.1107	0.1136	0.0000	1,757.9511

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	3,052.50	679.80	290.40	5,541,734	5,541,734
Parking Lot	0.00	0.00	0.00		
Total	3,052.50	679.80	290.40	5,541,734	5,541,734

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776
General Office Building	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776
Parking Lot	0.572464	0.055653	0.187060	0.115672	0.020329	0.005102	0.007934	0.006404	0.000900	0.000380	0.024412	0.000914	0.002776

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	74.0476	74.0476	0.1023	0.0212	82.9086
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	74.0476	74.0476	0.1023	0.0212	82.9086
NaturalGas Mitigated	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
NaturalGas Unmitigated	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897

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					
Enclosed Parking with Elevator	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
General Office Building	5.4021e+006	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0291**	**0.2648**	**0.2224**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**288.2766**	**288.2766**	**5.5300e-003**	**5.2900e-003**	**289.9897**

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					
Enclosed Parking with Elevator	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
General Office Building	5.4021e+006	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0291**	**0.2648**	**0.2224**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**288.2766**	**288.2766**	**5.5300e-003**	**5.2900e-003**	**289.9897**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.88669e+006	17.9715	0.0248	5.1300e-003	20.1221
General Office Building	5.8839e+006	56.0467	0.0774	0.0160	62.7537
Parking Lot	3080	0.0293	4.0000e-005	1.0000e-005	0.0329
Total		**74.0476**	**0.1023**	**0.0212**	**82.9086**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.88669e+006	17.9715	0.0248	5.1300e-003	20.1221
General Office Building	5.8839e+006	56.0467	0.0774	0.0160	62.7537
Parking Lot	3080	0.0293	4.0000e-005	1.0000e-005	0.0329
Total		**74.0476**	**0.1023**	**0.0212**	**82.9086**

6.0 Area Detail

6.1 Mitigation Measures Area

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

Category	tons/yr										MT/yr					
Mitigated	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Unmitigated	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249

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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1100e-003	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Total	**1.4903**	**1.1000e-004**	**0.0120**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0234**	**0.0234**	**6.0000e-005**	**0.0000**	**0.0249**

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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1100e-003	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249

Total	**1.4903**	**1.1000e-004**	**0.0120**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0234**	**0.0234**	**6.0000e-005**	**0.0000**	**0.0249**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.9728	0.0773	0.0463	40.7114
Unmitigated	24.9728	0.0773	0.0463	40.7114

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	58.6521 / 35.9481	24.9728	0.0773	0.0463	40.7114
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.9728**	**0.0773**	**0.0463**	**40.7114**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	58.6521 / 35.9481	24.9728	0.0773	0.0463	40.7114
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.9728**	**0.0773**	**0.0463**	**40.7114**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.2979	3.6817	0.0000	154.3405
Unmitigated	62.2979	3.6817	0.0000	154.3405

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	306.9	62.2979	3.6817	0.0000	154.3405
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.2979**	**3.6817**	**0.0000**	**154.3405**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	306.9	62.2979	3.6817	0.0000	154.3405
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.2979**	**3.6817**	**0.0000**	**154.3405**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0	50	1341	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.1651	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Total	**0.1651**	**0.7381**	**0.4208**	**7.9000e-004**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**76.5974**	**76.5974**	**0.0107**	**0.0000**	**76.8658**

11.0 Vegetation

3000 Bowers Office Project - Operational AQ-GHG

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	330.00	1000sqft	7.20	330,000.00	0
Enclosed Parking with Elevator	958.00	Space	0.00	321,960.00	0
Parking Lot	22.00	Space	0.00	8,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 rate (210) with the assumption that electricity would be provided by SVCE (10% use PG&E instead)

Land Use - 3000 Bowers Land Uses

Construction Phase - No Construction

Off-road Equipment - No Construction Equipment

Vehicle Trips - Based on Traffic Trip Gen rate: 9.25, 2.06, 0.88

Vehicle Emission Factors - EMFAC2017 for 2030

Vehicle Emission Factors -

Energy Use -

Water And Wastewater - 100% aerobic

Operational Off-Road Equipment -

Fleet Mix - EMFAC2017 Fleet Mix for 2023

Stationary Sources - Emergency Generators and Fire Pumps - (3x) 1,000 kW Diesel Emergency Generators

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblFleetMix	HHD	0.02	6.1316e-003
tblFleetMix	HHD	0.02	6.1316e-003
tblFleetMix	HHD	0.02	6.1316e-003
tblFleetMix	LDA	0.62	0.58
tblFleetMix	LDA	0.62	0.58
tblFleetMix	LDA	0.62	0.58
tblFleetMix	LDT1	0.03	0.06
tblFleetMix	LDT1	0.03	0.06
tblFleetMix	LDT1	0.03	0.06
tblFleetMix	LDT2	0.18	0.18
tblFleetMix	LDT2	0.18	0.18
tblFleetMix	LDT2	0.18	0.18
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.3978e-003
tblFleetMix	LHD2	5.0600e-003	5.3978e-003
tblFleetMix	LHD2	5.0600e-003	5.3978e-003
tblFleetMix	MCY	5.1220e-003	0.02
tblFleetMix	MCY	5.1220e-003	0.02

tblFleetMix	MCY	5.1220e-003	0.02
tblFleetMix	MDV	0.10	0.12
tblFleetMix	MDV	0.10	0.12
tblFleetMix	MDV	0.10	0.12
tblFleetMix	MH	6.5100e-004	2.5257e-003
tblFleetMix	MH	6.5100e-004	2.5257e-003
tblFleetMix	MH	6.5100e-004	2.5257e-003
tblFleetMix	MHD	0.01	8.2187e-003
tblFleetMix	MHD	0.01	8.2187e-003
tblFleetMix	MHD	0.01	8.2187e-003
tblFleetMix	OBUS	2.2210e-003	8.5199e-004
tblFleetMix	OBUS	2.2210e-003	8.5199e-004
tblFleetMix	OBUS	2.2210e-003	8.5199e-004
tblFleetMix	SBUS	6.4600e-004	8.3688e-004
tblFleetMix	SBUS	6.4600e-004	8.3688e-004
tblFleetMix	SBUS	6.4600e-004	8.3688e-004
tblFleetMix	UBUS	1.4700e-003	3.3506e-004
tblFleetMix	UBUS	1.4700e-003	3.3506e-004
tblFleetMix	UBUS	1.4700e-003	3.3506e-004
tblLandUse	LandUseSquareFeet	383,200.00	321,960.00
tblLandUse	LotAcreage	7.58	7.20
tblLandUse	LotAcreage	8.62	0.00
tblLandUse	LotAcreage	0.20	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,341.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00

tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleEF	HHD	0.27	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.43	6.34
tblVehicleEF	HHD	0.94	0.40
tblVehicleEF	HHD	4.01	5.9190e-003
tblVehicleEF	HHD	4,037.05	1,065.38
tblVehicleEF	HHD	1,498.85	1,436.68
tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.44
tblVehicleEF	HHD	1.59	2.68
tblVehicleEF	HHD	19.20	2.32
tblVehicleEF	HHD	3.6830e-003	2.6700e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.5230e-003	2.5550e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8550e-003	8.8780e-003
tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	3.0000e-006
tblVehicleEF	HHD	4.6010e-003	1.1600e-004
tblVehicleEF	HHD	0.37	0.43
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.03
tblVehicleEF	HHD	4.1900e-004	5.9400e-004

tblVehicleEF	HHD	0.07	3.0000e-006
tblVehicleEF	HHD	0.04	9.9140e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	0.00
tblVehicleEF	HHD	1.0100e-004	3.0000e-006
tblVehicleEF	HHD	4.6010e-003	1.1600e-004
tblVehicleEF	HHD	0.43	0.49
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.1900e-004	5.9400e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.8990e-003	1.9580e-003
tblVehicleEF	LDA	2.1050e-003	0.05
tblVehicleEF	LDA	0.33	0.57
tblVehicleEF	LDA	0.63	2.19
tblVehicleEF	LDA	181.37	242.23
tblVehicleEF	LDA	42.51	51.37
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.03	0.18
tblVehicleEF	LDA	1.1470e-003	1.3700e-003
tblVehicleEF	LDA	1.8260e-003	1.7440e-003
tblVehicleEF	LDA	1.0560e-003	1.2620e-003
tblVehicleEF	LDA	1.6790e-003	1.6040e-003
tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	0.06	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	4.7560e-003	7.4820e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	1.8150e-003	9.3000e-005

tblVehicleEF	LDA	4.3500e-004	0.00
tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	0.06	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	6.9190e-003	0.01
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.03	0.23
tblVehicleEF	LDT1	3.6800e-003	4.1630e-003
tblVehicleEF	LDT1	4.5270e-003	0.06
tblVehicleEF	LDT1	0.55	0.96
tblVehicleEF	LDT1	1.12	2.38
tblVehicleEF	LDT1	233.07	289.26
tblVehicleEF	LDT1	54.62	62.09
tblVehicleEF	LDT1	0.05	0.08
tblVehicleEF	LDT1	0.06	0.23
tblVehicleEF	LDT1	1.4520e-003	1.7850e-003
tblVehicleEF	LDT1	2.1870e-003	2.2440e-003
tblVehicleEF	LDT1	1.3350e-003	1.6430e-003
tblVehicleEF	LDT1	2.0110e-003	2.0630e-003
tblVehicleEF	LDT1	0.05	0.08
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	9.1170e-003	0.02
tblVehicleEF	LDT1	0.09	0.58
tblVehicleEF	LDT1	0.06	0.31
tblVehicleEF	LDT1	2.3350e-003	2.6160e-003
tblVehicleEF	LDT1	5.6500e-004	0.00
tblVehicleEF	LDT1	0.05	0.08
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.04	0.07

tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.09	0.58
tblVehicleEF	LDT1	0.07	0.34
tblVehicleEF	LDT2	2.9960e-003	3.2450e-003
tblVehicleEF	LDT2	3.1970e-003	0.07
tblVehicleEF	LDT2	0.49	0.80
tblVehicleEF	LDT2	0.89	2.82
tblVehicleEF	LDT2	264.16	312.82
tblVehicleEF	LDT2	61.38	67.73
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.05	0.27
tblVehicleEF	LDT2	1.3060e-003	1.4040e-003
tblVehicleEF	LDT2	2.0190e-003	1.7450e-003
tblVehicleEF	LDT2	1.2010e-003	1.2930e-003
tblVehicleEF	LDT2	1.8570e-003	1.6050e-003
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.07	0.12
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	7.4390e-003	0.01
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.04	0.31
tblVehicleEF	LDT2	2.6450e-003	0.01
tblVehicleEF	LDT2	6.2800e-004	9.3000e-005
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.07	0.12
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.42
tblVehicleEF	LDT2	0.05	0.34
tblVehicleEF	LHD1	3.9820e-003	5.1620e-003

tblVehicleEF	LHD1	8.6490e-003	8.5450e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.14	0.19
tblVehicleEF	LHD1	0.61	0.77
tblVehicleEF	LHD1	1.67	1.08
tblVehicleEF	LHD1	8.93	8.94
tblVehicleEF	LHD1	641.43	794.16
tblVehicleEF	LHD1	26.94	11.83
tblVehicleEF	LHD1	0.06	0.06
tblVehicleEF	LHD1	0.53	0.73
tblVehicleEF	LHD1	0.67	0.32
tblVehicleEF	LHD1	7.8900e-004	8.2500e-004
tblVehicleEF	LHD1	0.01	9.7470e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	6.6500e-004	2.5800e-004
tblVehicleEF	LHD1	7.5500e-004	7.9000e-004
tblVehicleEF	LHD1	2.6030e-003	2.4370e-003
tblVehicleEF	LHD1	9.7020e-003	9.7200e-003
tblVehicleEF	LHD1	6.1100e-004	2.3700e-004
tblVehicleEF	LHD1	1.8620e-003	2.0240e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	1.0320e-003
tblVehicleEF	LHD1	0.10	0.09
tblVehicleEF	LHD1	0.26	0.52
tblVehicleEF	LHD1	0.15	0.08
tblVehicleEF	LHD1	8.9000e-005	8.7000e-005
tblVehicleEF	LHD1	6.2670e-003	7.7550e-003
tblVehicleEF	LHD1	3.0000e-004	1.1700e-004
tblVehicleEF	LHD1	1.8620e-003	2.0240e-003

tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.0210e-003	1.0320e-003
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.26	0.52
tblVehicleEF	LHD1	0.16	0.08
tblVehicleEF	LHD2	2.5430e-003	3.1550e-003
tblVehicleEF	LHD2	5.3180e-003	7.0600e-003
tblVehicleEF	LHD2	3.2330e-003	8.4310e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.45	0.62
tblVehicleEF	LHD2	0.88	0.63
tblVehicleEF	LHD2	13.62	14.00
tblVehicleEF	LHD2	675.95	768.73
tblVehicleEF	LHD2	21.83	7.83
tblVehicleEF	LHD2	0.07	0.10
tblVehicleEF	LHD2	0.22	0.88
tblVehicleEF	LHD2	0.26	0.18
tblVehicleEF	LHD2	1.0460e-003	1.4230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.02
tblVehicleEF	LHD2	3.7400e-004	1.3300e-004
tblVehicleEF	LHD2	1.0000e-003	1.3610e-003
tblVehicleEF	LHD2	2.7080e-003	2.6880e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	1.2300e-004
tblVehicleEF	LHD2	5.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	5.4700e-004

tblVehicleEF	LHD2	0.09	0.11
tblVehicleEF	LHD2	0.04	0.28
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	1.3300e-004	1.3400e-004
tblVehicleEF	LHD2	6.5670e-003	7.4240e-003
tblVehicleEF	LHD2	2.3300e-004	7.8000e-005
tblVehicleEF	LHD2	5.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	5.4700e-004
tblVehicleEF	LHD2	0.11	0.13
tblVehicleEF	LHD2	0.04	0.28
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	MCY	0.46	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	17.52	18.87
tblVehicleEF	MCY	10.34	9.03
tblVehicleEF	MCY	171.38	210.17
tblVehicleEF	MCY	42.85	61.04
tblVehicleEF	MCY	1.14	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	1.9690e-003
tblVehicleEF	MCY	3.3210e-003	3.0390e-003
tblVehicleEF	MCY	2.0120e-003	1.8400e-003
tblVehicleEF	MCY	3.1070e-003	2.8590e-003
tblVehicleEF	MCY	0.88	1.81
tblVehicleEF	MCY	0.61	0.69
tblVehicleEF	MCY	0.46	0.99
tblVehicleEF	MCY	2.12	2.21
tblVehicleEF	MCY	0.46	1.97

tblVehicleEF	MCY	2.11	1.94
tblVehicleEF	MCY	2.0640e-003	2.0800e-003
tblVehicleEF	MCY	6.5900e-004	6.0400e-004
tblVehicleEF	MCY	0.88	1.81
tblVehicleEF	MCY	0.61	0.69
tblVehicleEF	MCY	0.46	0.99
tblVehicleEF	MCY	2.66	2.74
tblVehicleEF	MCY	0.46	1.97
tblVehicleEF	MCY	2.30	2.11
tblVehicleEF	MDV	5.1180e-003	3.9100e-003
tblVehicleEF	MDV	7.2260e-003	0.08
tblVehicleEF	MDV	0.68	0.88
tblVehicleEF	MDV	1.51	3.17
tblVehicleEF	MDV	358.67	378.63
tblVehicleEF	MDV	82.28	81.00
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.33
tblVehicleEF	MDV	1.3880e-003	1.5270e-003
tblVehicleEF	MDV	2.0820e-003	1.9090e-003
tblVehicleEF	MDV	1.2780e-003	1.4090e-003
tblVehicleEF	MDV	1.9150e-003	1.7560e-003
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.13	0.14
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.01	0.02
tblVehicleEF	MDV	0.09	0.44
tblVehicleEF	MDV	0.10	0.38
tblVehicleEF	MDV	3.5870e-003	3.7430e-003
tblVehicleEF	MDV	8.4800e-004	8.0200e-004
tblVehicleEF	MDV	0.05	0.07

tblVehicleEF	MDV	0.13	0.14
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.44
tblVehicleEF	MDV	0.11	0.42
tblVehicleEF	MH	8.2310e-003	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	1.11
tblVehicleEF	MH	3.72	2.13
tblVehicleEF	MH	1,184.19	1,532.75
tblVehicleEF	MH	56.79	18.68
tblVehicleEF	MH	0.84	1.36
tblVehicleEF	MH	0.62	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.7400e-004
tblVehicleEF	MH	3.2210e-003	3.2750e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	2.5200e-004
tblVehicleEF	MH	0.46	0.71
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	0.18	0.25
tblVehicleEF	MH	0.04	0.07
tblVehicleEF	MH	0.01	1.44
tblVehicleEF	MH	0.22	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.3200e-004	1.8500e-004
tblVehicleEF	MH	0.46	0.71
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	0.18	0.25

tblVehicleEF	MH	0.05	0.09
tblVehicleEF	MH	0.01	1.44
tblVehicleEF	MH	0.24	0.11
tblVehicleEF	MHD	0.02	3.5450e-003
tblVehicleEF	MHD	2.7470e-003	1.9320e-003
tblVehicleEF	MHD	0.03	9.4870e-003
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.25	0.26
tblVehicleEF	MHD	3.74	1.14
tblVehicleEF	MHD	131.96	73.35
tblVehicleEF	MHD	1,167.79	1,095.06
tblVehicleEF	MHD	59.45	9.38
tblVehicleEF	MHD	0.34	0.43
tblVehicleEF	MHD	1.04	1.44
tblVehicleEF	MHD	9.99	1.70
tblVehicleEF	MHD	5.2000e-005	4.2700e-004
tblVehicleEF	MHD	3.0080e-003	6.9550e-003
tblVehicleEF	MHD	8.2100e-004	1.1900e-004
tblVehicleEF	MHD	5.0000e-005	4.0900e-004
tblVehicleEF	MHD	2.8710e-003	6.6480e-003
tblVehicleEF	MHD	7.5400e-004	1.1000e-004
tblVehicleEF	MHD	6.4300e-004	4.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	2.1100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.23	0.05
tblVehicleEF	MHD	1.2710e-003	6.9600e-004
tblVehicleEF	MHD	0.01	0.01

tblVehicleEF	MHD	6.6000e-004	9.3000e-005
tblVehicleEF	MHD	6.4300e-004	4.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	3.8200e-004	2.1100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.25	0.06
tblVehicleEF	OBUS	0.01	7.0630e-003
tblVehicleEF	OBUS	4.0840e-003	4.0130e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.57
tblVehicleEF	OBUS	0.30	0.47
tblVehicleEF	OBUS	4.08	1.90
tblVehicleEF	OBUS	110.55	91.93
tblVehicleEF	OBUS	1,272.30	1,341.74
tblVehicleEF	OBUS	64.94	15.48
tblVehicleEF	OBUS	0.24	0.37
tblVehicleEF	OBUS	0.85	1.44
tblVehicleEF	OBUS	2.74	1.09
tblVehicleEF	OBUS	2.2000e-005	1.2000e-004
tblVehicleEF	OBUS	2.8340e-003	7.0290e-003
tblVehicleEF	OBUS	9.3800e-004	1.4200e-004
tblVehicleEF	OBUS	2.1000e-005	1.1500e-004
tblVehicleEF	OBUS	2.6900e-003	6.7120e-003
tblVehicleEF	OBUS	8.6200e-004	1.3000e-004
tblVehicleEF	OBUS	1.1660e-003	1.0840e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8000e-004

tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.09
tblVehicleEF	OBUS	1.0660e-003	8.7300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.5300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0840e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8000e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.10
tblVehicleEF	SBUS	0.81	0.05
tblVehicleEF	SBUS	7.6490e-003	6.3560e-003
tblVehicleEF	SBUS	0.06	4.7830e-003
tblVehicleEF	SBUS	8.87	2.18
tblVehicleEF	SBUS	0.48	0.52
tblVehicleEF	SBUS	7.57	0.70
tblVehicleEF	SBUS	1,023.58	347.39
tblVehicleEF	SBUS	1,008.60	1,060.99
tblVehicleEF	SBUS	61.81	3.98
tblVehicleEF	SBUS	4.35	3.53
tblVehicleEF	SBUS	1.72	4.87
tblVehicleEF	SBUS	10.76	0.81
tblVehicleEF	SBUS	2.1870e-003	3.9050e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.03
tblVehicleEF	SBUS	1.1020e-003	4.6000e-005
tblVehicleEF	SBUS	2.0920e-003	3.7360e-003

tblVehicleEF	SBUS	2.5880e-003	2.7270e-003
tblVehicleEF	SBUS	8.1060e-003	0.03
tblVehicleEF	SBUS	1.0130e-003	4.2000e-005
tblVehicleEF	SBUS	3.7080e-003	5.3700e-004
tblVehicleEF	SBUS	0.03	5.2210e-003
tblVehicleEF	SBUS	1.05	0.24
tblVehicleEF	SBUS	1.7580e-003	2.2700e-004
tblVehicleEF	SBUS	0.07	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.40	0.03
tblVehicleEF	SBUS	0.01	3.3060e-003
tblVehicleEF	SBUS	9.7440e-003	0.01
tblVehicleEF	SBUS	7.4900e-004	3.9000e-005
tblVehicleEF	SBUS	3.7080e-003	5.3700e-004
tblVehicleEF	SBUS	0.03	5.2210e-003
tblVehicleEF	SBUS	1.53	0.35
tblVehicleEF	SBUS	1.7580e-003	2.2700e-004
tblVehicleEF	SBUS	0.08	0.10
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.43	0.03
tblVehicleEF	UBUS	0.23	1.35
tblVehicleEF	UBUS	0.05	1.4170e-003
tblVehicleEF	UBUS	3.04	10.12
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,597.13
tblVehicleEF	UBUS	126.43	1.39
tblVehicleEF	UBUS	4.75	0.73
tblVehicleEF	UBUS	13.02	0.01
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03

tblVehicleEF	UBUS	0.10	5.3280e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	5.0960e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.5170e-003	8.0000e-006
tblVehicleEF	UBUS	0.23	0.02
tblVehicleEF	UBUS	9.4350e-003	5.9200e-004
tblVehicleEF	UBUS	0.65	5.8830e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.5170e-003	8.0000e-006
tblVehicleEF	UBUS	0.48	1.38
tblVehicleEF	UBUS	9.4350e-003	5.9200e-004
tblVehicleEF	UBUS	0.71	6.4410e-003
tblVehicleTrips	ST_TR	2.46	2.06
tblVehicleTrips	SU_TR	1.05	0.88
tblVehicleTrips	WD_TR	11.03	9.25
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Energy	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	362.3242	362.3242	0.1078	0.0264	372.8983
Mobile	1.2522	1.0622	9.2163	0.0186	2.0476	0.0137	2.0612	0.5465	0.0127	0.5592	0.0000	1,749.9066	1,749.9066	0.1127	0.0000	1,752.72
Stationary	0.1650	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Waste						0.0000	0.0000		0.0000	0.0000	62.2979	0.0000	62.2979	3.6817	0.0000	154.3405
Water						0.0000	0.0000		0.0000	0.0000	20.7512	4.2215	24.9728	0.0773	0.0463	40.7114
Total	**2.9366**	**2.0652**	**9.8716**	**0.0209**	**2.0476**	**0.0581**	**2.1057**	**0.5465**	**0.0572**	**0.6037**	**83.0492**	**2,193.0731**	**2,276.1223**	**3.9902**	**0.0728**	**2,397.56**

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	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249

Energy	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	362.3242	362.3242	0.1078	0.0264	372.8983
Mobile	1.2522	1.0622	9.2163	0.0186	2.0476	0.0137	2.0612	0.5465	0.0127	0.5592	0.0000	1,749.9066	1,749.9066	0.1127	0.0000	1,752.7237
Stationary	0.1650	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Waste						0.0000	0.0000		0.0000	0.0000	62.2979	0.0000	62.2979	3.6817	0.0000	154.3405
Water						0.0000	0.0000		0.0000	0.0000	20.7512	4.2215	24.9728	0.0773	0.0463	40.7114
Total	**2.9366**	**2.0652**	**9.8716**	**0.0209**	**2.0476**	**0.0581**	**2.1057**	**0.5465**	**0.0572**	**0.6037**	**83.0492**	**2,193.0731**	**2,276.1223**	**3.9902**	**0.0728**	**2,397.5647**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2522	1.0622	9.2163	0.0186	2.0476	0.0137	2.0612	0.5465	0.0127	0.5592	0.0000	1,749.9066	1,749.9066	0.1127	0.0000	1,752.7237
Unmitigated	1.2522	1.0622	9.2163	0.0186	2.0476	0.0137	2.0612	0.5465	0.0127	0.5592	0.0000	1,749.9066	1,749.9066	0.1127	0.0000	1,752.7237

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	3,052.50	679.80	290.40	5,541,734	5,541,734
Parking Lot	0.00	0.00	0.00		
Total	3,052.50	679.80	290.40	5,541,734	5,541,734

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.577192	0.056815	0.182253	0.115088	0.020149	0.005398	0.008219	0.006132	0.000852	0.000335	0.024205	0.000837	0.002526
General Office Building	0.577192	0.056815	0.182253	0.115088	0.020149	0.005398	0.008219	0.006132	0.000852	0.000335	0.024205	0.000837	0.002526
Parking Lot	0.577192	0.056815	0.182253	0.115088	0.020149	0.005398	0.008219	0.006132	0.000852	0.000335	0.024205	0.000837	0.002526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	74.0476	74.0476	0.1023	0.0212	82.9086
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	74.0476	74.0476	0.1023	0.0212	82.9086

NaturalGas Mitigated	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
NaturalGas Unmitigated	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897

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					
Enclosed Parking with Elevator	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
General Office Building	5.4021e+006	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0291**	**0.2648**	**0.2224**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**288.2766**	**288.2766**	**5.5300e-003**	**5.2900e-003**	**289.9897**

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					
Enclosed Parking with Elevator	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
General Office Building	5.4021e+006	0.0291	0.2648	0.2224	1.5900e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2766	288.2766	5.5300e-003	5.2900e-003	289.9897
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0291**	**0.2648**	**0.2224**	**1.5900e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**288.2766**	**288.2766**	**5.5300e-003**	**5.2900e-003**	**289.9897**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.88669e+006	17.9715	0.0248	5.1300e-003	20.1221
General Office Building	5.8839e+006	56.0467	0.0774	0.0160	62.7537
Parking Lot	3080	0.0293	4.0000e-005	1.0000e-005	0.0329
Total		**74.0476**	**0.1023**	**0.0212**	**82.9086**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.88669e+006	17.9715	0.0248	5.1300e-003	20.1221
General Office Building	5.8839e+006	56.0467	0.0774	0.0160	62.7537
Parking Lot	3080	0.0293	4.0000e-005	1.0000e-005	0.0329
Total		**74.0476**	**0.1023**	**0.0212**	**82.9086**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Unmitigated	1.4903	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249

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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-003	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Total	**1.4903**	**1.1000e-004**	**0.0120**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0234**	**0.0234**	**6.0000e-005**	**0.0000**	**0.0249**

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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-003	1.1000e-004	0.0120	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0234	0.0234	6.0000e-005	0.0000	0.0249
Total	**1.4903**	**1.1000e-004**	**0.0120**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0234**	**0.0234**	**6.0000e-005**	**0.0000**	**0.0249**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.9728	0.0773	0.0463	40.7114
Unmitigated	24.9728	0.0773	0.0463	40.7114

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000

General Office Building	58.6521 / 35.9481	24.9728	0.0773	0.0463	40.7114
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.9728**	**0.0773**	**0.0463**	**40.7114**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	58.6521 / 35.9481	24.9728	0.0773	0.0463	40.7114
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.9728**	**0.0773**	**0.0463**	**40.7114**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.2979	3.6817	0.0000	154.3405

Unmitigated	62.2979	3.6817	0.0000	154.3405

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	306.9	62.2979	3.6817	0.0000	154.3405
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.2979**	**3.6817**	**0.0000**	**154.3405**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	306.9	62.2979	3.6817	0.0000	154.3405
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.2979**	**3.6817**	**0.0000**	**154.3405**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	0	50	1341	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.1650	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Total	**0.1650**	**0.7381**	**0.4208**	**7.9000e-004**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**76.5974**	**76.5974**	**0.0107**	**0.0000**	**76.8658**

11.0 Vegetation

Attachment 2: EMFAC2017 Calculations

Summary of Construction Traffic Emissions (EMFAC2017)

PROJECT 3000 Bowers Avenue

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2 *Metric Tons*
					Tons						
Criteria Pollutants											
2021	0.1282	1.3713	1.1538	0.0063	0.0167	0.0881	0.1048	0.0167	0.0459	0.0625	609.1941
2022	0.0208	0.2336	0.2120	0.0012	0.0034	0.0159	0.0193	0.0034	0.0075	0.0109	118.8540

CalEEMod Construction Inputs - Building 1

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Grading	13	0	130	0	217	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1404	0	4340
Trenching	5	0	150	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	0
Structural Steel	53	27	2120	1080	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	22896	7884	0
Concrete	53	27	7261	3699	148	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	78418.8	27002.7	1080.4
Architectural Coating	11	0	1056	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	11404.8	0	0
Building Exterior	53	27	6519	3321	1066	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	70405.2	24243.3	7781.8

Number of Days Per Year				
2021	2/13/2021	12/31/21	322	
2022	1/1/22	2/10/22	41	
2023				
			363	**259** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Grading	2/13/2021	2/26/2021	5	10
Trenching	3/14/2021	4/23/2021	5	30
Structural Steel	5/17/2021	7/9/2021	5	40
Concrete	7/16/2021	1/24/2022	5	137
Architectural Coating	7/31/2021	12/13/2021	5	96
Building Exterior	8/24/2021	2/10/2022	5	123

CalEEMod Construction Inputs - Building 2

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Grading	13	0	130	0	217	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1404	0	4340
Trenching	5	0	150	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	0
Structural Steel	53	27	5777	2943	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	62391.6	21483.9	0
Concrete	53	27	1696	864	148	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	18316.8	6307.2	1080.4
Architectural Coating	11	0	1012	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	10929.6	0	0
Building Exterior	53	27	6148	3132	1066	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	66398.4	22863.6	7781.8

Number of Days Per Year				
2021	2/21/2021	12/31/21	314	
2022	1/1/22	2/7/22	38	
2023				
			352	**251** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Grading	2/21/2021	3/5/2021	5	10
Trenching	3/21/2021	4/30/2021	5	30
Structural Steel	5/1/2021	9/30/2021	5	109
Concrete	6/8/2021	7/21/2021	5	32
Architectural Coating	8/7/2021	12/14/2021	5	92
Building Exterior	8/28/2021	2/7/2022	5	116

CalEEMod Construction Inputs - Parking Garage

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Site Preparation	8	0	80	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	864	0	0
Paving	13	0	65	0	60	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	702	0	438
Grading	20	0	1000	0	891	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	10800	0	17820
Trenching	5	0	345	0	28	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3726	0	560
Concrete	139	54	38225	14850	272	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	412830	108405	1985.6
Building Exterior	139	54	9313	3618	3096	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	100580.4	26411.4	22600.8

Number of Days Per Year				
2021	1/30/2021	12/31/21	336	
2022	1/1/22	3/29/22	88	
2023				
			424	**303** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Site Preparation	1/30/2021	2/12/2021	5	10
Paving	1/30/2021	2/5/2021	5	5
Grading	2/13/2021	4/24/2021	5	50
Trenching	2/13/2021	5/20/2021	5	69
Concrete	2/13/2021	3/4/2022	5	275
Building Exterior	12/27/2021	3/29/2022	5	67

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2021	**1.0002**	**1.0001**	**1.0002**	**1.0009**	**1.0005**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2022	**1.0004**	**1.0003**	**1.0004**	**1.0018**	**1.0014**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

CalEEMod EMFAC2017 Emission Factors Input — Year 2023

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005162	0.003155	0.003545	0.024833819	0.007063	0	0	0.051479	0
A	CH4_RUNEX	0.001958	0.004163	0.003245	0.00391	0.008545	0.00706	0.001932	0.049536467	0.004013	1.348781	0.326994	0.006356	0.0108
A	CH4_STREX	0.047744	0.063181	0.066279	0.077681	0.015	0.008431	0.009487	4.90854E-07	0.017607	0.001417	0.255241	0.004783	0.023194
A	CO_IDLEX	0	0	0	0	0.185249	0.138442	0.388783	6.342287544	0.573374	0	0	2.176398	0
A	CO_RUNEX	0.56207	0.946438	0.787567	0.865358	0.768919	0.621061	0.261063	0.395696608	0.470154	10.11652	18.86893	0.51865	1.109312
A	CO_STREX	2.160562	2.346256	2.785419	3.129575	1.083381	0.63132	1.136225	0.005919328	1.895072	0.139137	9.034026	0.699825	2.132057
A	CO2_NBIO_IDLEX	0	0	0	0	8.942095	14.00074	73.35401	1065.376459	91.92835	0	0	347.3949	0
A	CO2_NBIO_RUNEX	242.2278	289.2637	312.8205	378.6349	794.1566	768.7296	1095.065	1436.676046	1341.742	1597.13	210.1672	1060.994	1532.749
A	CO2_NBIO_STREX	51.36962	62.08836	67.72596	80.99621	11.82811	7.832833	9.380273	0.049284883	15.47806	1.390925	61.03922	3.981795	18.67936
A	NOX_IDLEX	0	0	0	0	0.058295	0.098034	0.431519	5.438234036	0.369473	0	0	3.527869	0
A	NOX_RUNEX	0.033072	0.078073	0.067378	0.083492	0.730308	0.876464	1.444056	2.680938629	1.441249	0.728908	1.148719	4.873886	1.363761
A	NOX_STREX	0.176158	0.230265	0.270417	0.324369	0.321259	0.182356	1.696526	2.321334599	1.089647	0.010032	0.270672	0.811844	0.245583
A	PM10_IDLEX	0	0	0	0	0.000825	0.001423	0.000427	0.00267045	0.00012	0	0	0.003905	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060919337	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009747	0.01075	0.012	0.03551304	0.012	0.033326	0.004	0.010909	0.013099
A	PM10_RUNEX	0.001356	0.001766	0.001389	0.001511	0.01021	0.015665	0.006955	0.024670765	0.007029	0.005328	0.001969	0.031247	0.023972
A	PM10_STREX	0.001744	0.002244	0.001745	0.001909	0.000258	0.000133	0.000119	7.19411E-07	0.000142	1.52E-05	0.003039	4.55E-05	0.000274
A	PM25_IDLEX	0	0	0	0	0.00079	0.001361	0.000409	0.002554927	0.000115	0	0	0.003736	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026108287	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002437	0.002688	0.003	0.00887826	0.003	0.008332	0.001	0.002727	0.003275
A	PM25_RUNEX	0.001249	0.001625	0.001279	0.001393	0.00972	0.014962	0.006648	0.023603494	0.006712	0.005096	0.00184	0.029882	0.022889
A	PM25_STREX	0.001604	0.002063	0.001605	0.001756	0.000237	0.000123	0.00011	6.61472E-07	0.00013	1.4E-05	0.002859	4.18E-05	0.000252
A	ROG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	ROG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	ROG_IDLEX	0	0	0	0	0.021316	0.015901	0.018316	0.428946297	0.045786	0	0	0.241386	0
A	ROG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	ROG_RUNEX	0.007459	0.017917	0.013146	0.016466	0.092959	0.111603	0.017071	0.025760254	0.025484	0.019672	2.208057	0.086453	0.06941
A	ROG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	ROG_STREX	0.211356	0.306088	0.307495	0.382282	0.075776	0.042231	0.050853	2.56712E-06	0.090401	0.005883	1.941958	0.027318	0.096685
A	SO2_IDLEX	0	0	0	0	8.68E-05	0.000134	0.000696	0.009914298	0.000873	0	0	0.003306	0
A	SO2_RUNEX	9.26E-05	0.002616	0.010439	0.003743	0.007755	0.007424	0.010439	0.013153522	0.012917	0.011293	0.00208	0.010129	0.015045
A	SO2_STREX	0	0	9.28E-05	0.000802	0.000117	7.75E-05	9.28E-05	4.87714E-07	0.000153	1.38E-05	0.000604	3.94E-05	0.000185
A	TOG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	TOG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	TOG_IDLEX	0	0	0	0	0.030064	0.021432	0.02485	0.493262188	0.059237	0	0	0.345172	0
A	TOG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	TOG_RUNEX	0.010845	0.026122	0.019145	0.023909	0.114266	0.130419	0.021706	0.078007034	0.034475	1.37699	2.736079	0.103211	0.092037
A	TOG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	TOG_STREX	0.231408	0.335127	0.336668	0.418547	0.082966	0.046238	0.055677	2.81067E-06	0.098977	0.006441	2.11358	0.02991	0.105858

CalEEMod EMFAC2017 Fleet Mix Input — Year 2023

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2023	**1.0007**	**1.0006**	**1.0007**	**1.0032**	**1.0027**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One

November 20, 2019

Summary

Staff at the California Air Resources Board's (CARB) have estimated the vehicle tailpipe and evaporative emissions impacts from the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program" adopted by the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). The SAFE Vehicle Rule Part One impacts some of the underlying assumptions in the EMFAC2014 and EMFAC2017 models. This document provides the off-model adjustment factors that can be used to adjust emissions output from EMFAC model (only EMFAC2014 and EMFAC2017) to account for the impacts of this rule.

What is the SAFE Vehicle Rule Part One?

On September 27, 2019, the United States Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revokes California's authority to set its own greenhouse gas emissions standards and set zero-emission vehicle mandates in California. California expects Part Two of these regulations to be adopted later in the Fall of 2019. We will not know the full impacts of these rules until Part Two is released.

How Does the SAFE Vehicle Rule Impact Criteria Emissions?

As CARB has previously stated[1], both the GHG emission standards and the ZEV sales standards reduce criteria pollutants. As a result of the loss of the ZEV sales requirements, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years. This would increase criteria pollutant emissions in multiple ways. A ZEV inherently has zero evaporative emissions of hydrocarbons in the form of gasoline vapors, which escape from the tank and fuel lines during operation and while parked. A gasoline-fueled vehicle with evaporative emissions is assumed to take the place of each ZEV that will not be sold. This leads to an overall increase in hydrocarbon emissions. Additionally, tailpipe emissions of NOx, hydrocarbons, carbon monoxide, and particulate matter also increase as a result of each additional gasoline-fueled vehicle. This increase occurs for several reasons despite the presence of a criteria pollutant "fleet average" standard[2] that CARB has in place for hydrocarbons

[1] https://ww2.arb.ca.gov/carbs-comments-safe-proposal

[2] The Low Emission Vehicle III program requires manufacturers to average emissions from all vehicles in their fleet to meet the standard. In theory, the elimination of some ZEVs (which are counted in such an

and NOx. First, the fleet average does not apply to particulate matter and carbon monoxide, meaning each incremental gasoline-fueled vehicle generates additional tailpipe emissions of both pollutants. Second, because the fleet average is based on a single test cycle and does not fully capture all operating conditions, additional tailpipe emissions of all criteria pollutants occur for every incremental gasoline-fueled vehicle. Third and most significantly, both tailpipe and evaporative criteria pollutant emissions substantially increase over time due to deterioration of the emission controls on gasoline-fueled vehicles. ZEVs have no such deterioration. Thus, even with the fleet-average standard offsetting a portion of the tailpipe emissions by starting some gasoline-fueled vehicles at lower emission levels early in their life, this slight difference is overwhelmed by the increase in emissions from deterioration over the life of the vehicle.

More stringent ZEV and GHG standards are critical to reach attainment of air quality standards and meet climate needs. If standards cannot become more stringent, these mandates will be very difficult to meet. ZEV technologies, in particular, are needed in both light-duty and heavy-duty fleets to help commercialize this technology. As a result, the long-term threat to air quality is substantial as cleaner technologies, especially ZEVs, do not penetrate the fleet at the scale necessary and emissions are not reduced as needed.

What is EMFAC?

EMission FACtors (EMFAC) is California's federally-approved on-road mobile source emission inventory model that reflects California-specific driving and environmental conditions, fleet mix, and most importantly the impact of California's unique mobile source regulations such as the Low-Emission Vehicle (LEV) program including the LEV II and LEV III standards, California inspection and maintenance programs, and its in-use diesel fleet rules. The EMFAC model supports CARB's regulatory and air quality planning efforts and fulfills the federal Clean Air Act and the Federal Highway Administration's transportation planning requirements. The U.S. EPA has approved both EMFAC2014 and EMFAC2017 for use in state implementation plan (SIP) and transportation conformity analyses. For more information on EMFAC, please visit: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools.

How Did CARB Analyze the SAFE Vehicle Rule Part One's impact on vehicle emissions?

CARB estimated the change in vehicle emissions of the California light-duty vehicle fleet using its EMission FACtor (EMFAC) model. Both EMFAC2014 and EMFAC2017 default models, with an "annual average" setting, were run to estimate statewide vehicle emissions by calendar year, vehicle category, fuel type, and model year

average as zero emissions) would cause some of the remaining or increased number of gasoline-fueled vehicles to need to be certified to lower (cleaner) levels in order to still meet the same fleet average.

projected to occur under the existing Federal and CARB GHG standards and CARB ZEV requirements that were in place at the time of the analysis. These default results were then adjusted in a post-processing step to reflect the proposed SAFE Vehicle Rule[3]. As a result of freezing new ZEV sales at model year 2020 levels, the projected fleet for 2021 and beyond was modified to reflect a lower number of future ZEVs and a corresponding greater number of future gasoline internal combustion engine vehicles (and thus, a higher portion of vehicle miles traveled (VMT) by gasoline vehicles). The increased number of gasoline vehicles were put into appropriate criteria pollutant certification categories under CARB's Low Emission Vehicle (LEV) III criteria pollutant standards to maintain compliance with the required fleet average.

How is EMFAC impacted by the SAFE Vehicle Rule Part One?

Generally, after the SAFE Vehicle Rule Part One becomes effective on November 26, 2019, EMFAC2014 and EMFAC2017 will not accurately estimate future transportation emissions until they are updated with new assumptions reflecting the SAFE Vehicle Rule Part One in off-model adjustment factors provided by CARB.

What are Off-Model Adjustment Factors and how should they be applied?

CARB has prepared off-model adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of the SAFE Vehicle Rule Part One. These adjustments provided in the form of multipliers can be applied to emissions outputs from EMFAC model to account for the impact of this rule. The adjustment factors are provided in Table 1 for EMFAC2014 and Table 2 for EMFAC2017 (Note these factors do not include upstream emissions associated with fuel demand, as EMFAC only estimates tailpipe and evaporative emissions).

[3] More details can be found in CARB's letter submitted to US EPA and NHTSA on November 6, 2019 available at: https://www.regulations.gov/document?D=NHTSA-2018-0067-12447

Table 1. Off-Model Adjustment Factors for Gasoline Light Duty Vehicle[4] Emissions in **EMFAC2014**

Adjustment Factors for **EMFAC2014** Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
2021	1.0001	1.0001	1.0001	1.0012	1.0004
2022	1.0002	1.0004	1.0001	1.0034	1.0013
2023	1.0005	1.0008	1.0003	1.0066	1.0026
2024	1.0010	1.0014	1.0005	1.0105	1.0041
2025	1.0016	1.0021	1.0009	1.0149	1.0058
2026	1.0022	1.0030	1.0012	1.0183	1.0076
2027	1.0029	1.0039	1.0016	1.0208	1.0095
2028	1.0036	1.0050	1.0020	1.0224	1.0116
2029	1.0044	1.0063	1.0025	1.0241	1.0139
2030	1.0052	1.0078	1.0030	1.0260	1.0162
2031	1.0061	1.0095	1.0036	1.0279	1.0186
2032	1.0071	1.0114	1.0042	1.0299	1.0210
2033	1.0081	1.0134	1.0050	1.0320	1.0235
2034	1.0091	1.0156	1.0059	1.0341	1.0260
2035	1.0103	1.0179	1.0070	1.0362	1.0285
2036	1.0114	1.0202	1.0082	1.0382	1.0309
2037	1.0125	1.0224	1.0096	1.0400	1.0332
2038	1.0137	1.0247	1.0111	1.0418	1.0353
2039	1.0148	1.0269	1.0126	1.0435	1.0372
2040	1.0158	1.0290	1.0141	1.0449	1.0389
2041	1.0167	1.0309	1.0154	1.0461	1.0404
2042	1.0176	1.0326	1.0168	1.0471	1.0418
2043	1.0183	1.0340	1.0180	1.0480	1.0429
2044	1.0190	1.0352	1.0190	1.0487	1.0439
2045	1.0195	1.0364	1.0199	1.0494	1.0448
2046	1.0200	1.0373	1.0206	1.0499	1.0454
2047	1.0204	1.0384	1.0213	1.0504	1.0461
2048	1.0208	1.0393	1.0218	1.0508	1.0467
2049	1.0209	1.0400	1.0221	1.0510	1.0470
2050	1.0210	1.0406	1.0224	1.0512	1.0472

[4] LDA, LDT1, LDT2 and MDV vehicle categories in EMFAC

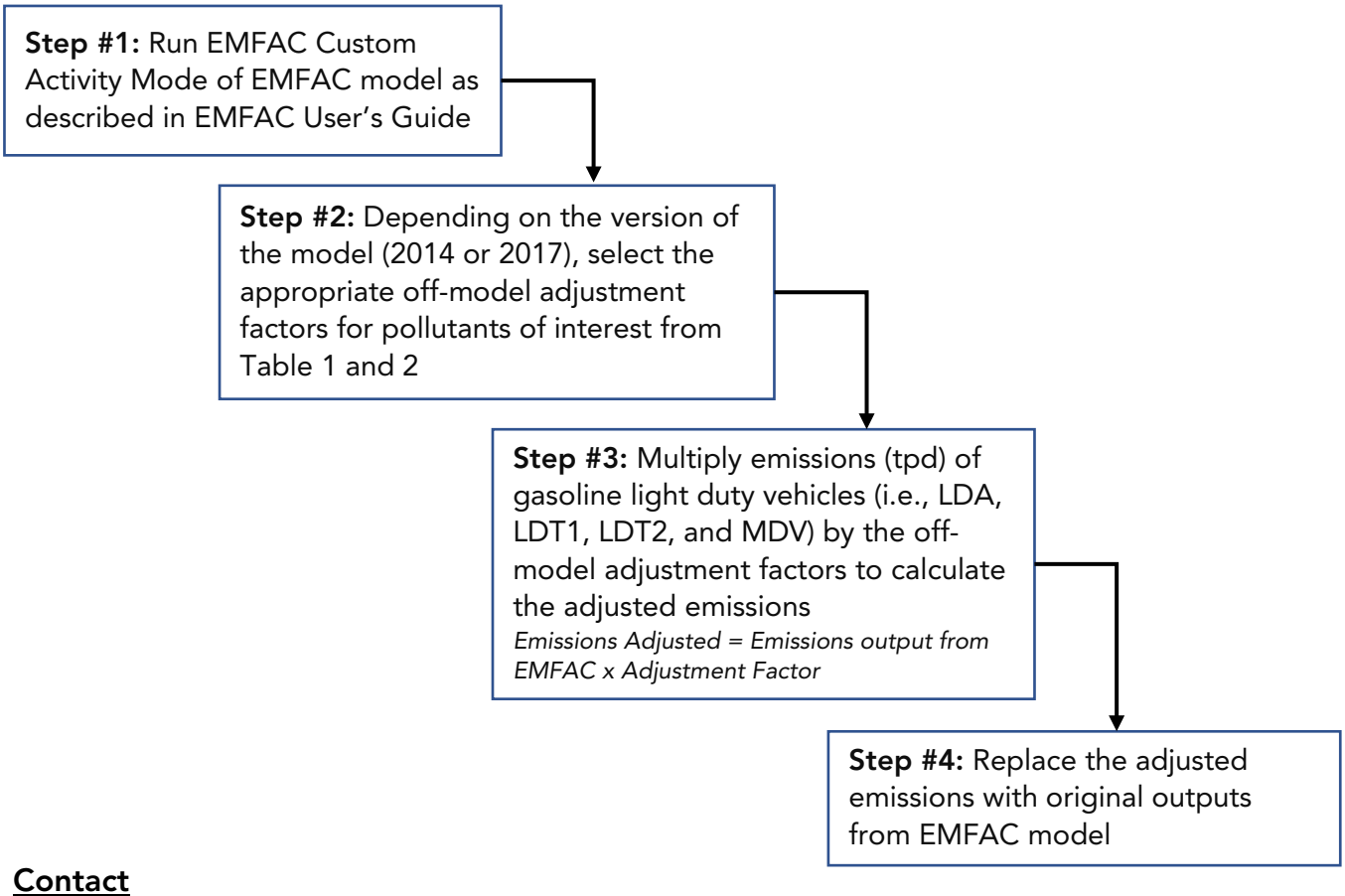
Table 2. Off-Model Adjustment Factors for Gasoline Light Duty Vehicle Emissions in **EMFAC2017**

Adjustment Factors for **EMFAC2017** Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

For example, the Custom Activity Mode of EMFAC2014 and 2017 is designed to perform emissions assessments for determining conformity with the state implementation plan. These types of assessments are most often done by various transportation planning agencies and air districts throughout California which require the user to create custom activity data files containing vehicle miles travelled (VMT) and/or speed profile data. This customized activity data will then be used for scaling the default vehicle emissions produced by EMFAC model. The off-model adjustment factors provided in this document can be applied to gasoline light duty vehicle emissions outputs of the EMFAC Custom Activity Mode, as illustrated in Figure 1.

Figure 1. Process to apply EMFAC Off-Model Adjustment Factors



Contact

For questions regarding the EMFAC off-model adjustment factors, please contact us at: EMFAC@arb.ca.gov