

Delmas-Park Apartments TAC and GHG Emissions Assessment San Jose, CA

Revised March 16, 2016

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Introduction

The purpose of this report is to address air quality community risk and greenhouse gas (GHG) emissions impacts associated with the Park-Delmas Residential Project in San Jose, California. The project proposes a Site Development Permit and Vesting Tentative Map to remove the existing building and construct 123 attached residential units in two buildings (one four-stories and one five-stories tall), constructed on a podium atop one level of below grade parking containing 150 parking spaces. Approximately 1,000 square feet (sf) of retail or restaurant space is proposed at the ground floor at the corner of Park and Delmas Avenues and courtyards are proposed between the buildings. The proposed use and density is consistent with the General Plan and zoning designations for the site. This 1.65-acre project site is located at the northeast corner of Park Avenue and Delmas Avenue in downtown San Jose.

Air quality impacts could occur due to temporary construction emissions. The project site is located over 200 feet west of State Route 87 and over 200 feet north of State Route 82. The placement of new residences near these roadways and stationary source of air pollutants would result in exposures of new project sensitive receptors to air pollutant emissions. In addition, existing residents near the project would be exposed to the cumulative toxic air contaminants (TACs). The project would also result in new GHG emissions. Project construction and the resulting direct and indirect emissions associated with the building and new residences are treated as new GHG emissions. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of diesel particulate matter (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.¹ 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 recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.²

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 14, 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, elementary schools, and parks. The closest sensitive receptors to the project site are residences across Park Avenue to the north, beyond Sonoma Street to the west and a single-family residence just to the southwest. Other residences are located south of W. San Carlos Street. The project would include new sensitive receptors.

Greenhouse Gases

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 (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ 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.

¹ Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: November 21, 2014.

² Bay Area Air Quality Management District. 2011. BAAQMD CEQA Air Quality Guidelines. May.

- 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 CO₂ being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger with a GWP of 23,900. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO₂ equivalents (CO₂e).

An expanding body of scientific research supports the theory that global warming 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 could be adversely affected by the global warming trend. Increased precipitation and sea level rise could 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.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These Thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2011). The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds. However, this litigation remains pending as the California Supreme Court recently accepted a portion of CBIA's petition to review the appellate court's decision to uphold BAAQMD's adoption of the thresholds. The specific portion of the argument to be considered is in regard to whether CEQA requires consideration of the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment). Therefore, the significance thresholds contained in the 2011 CEQA Air Quality Guidelines are applied to this project.

Table 1. Air Quality Significance Thresholds

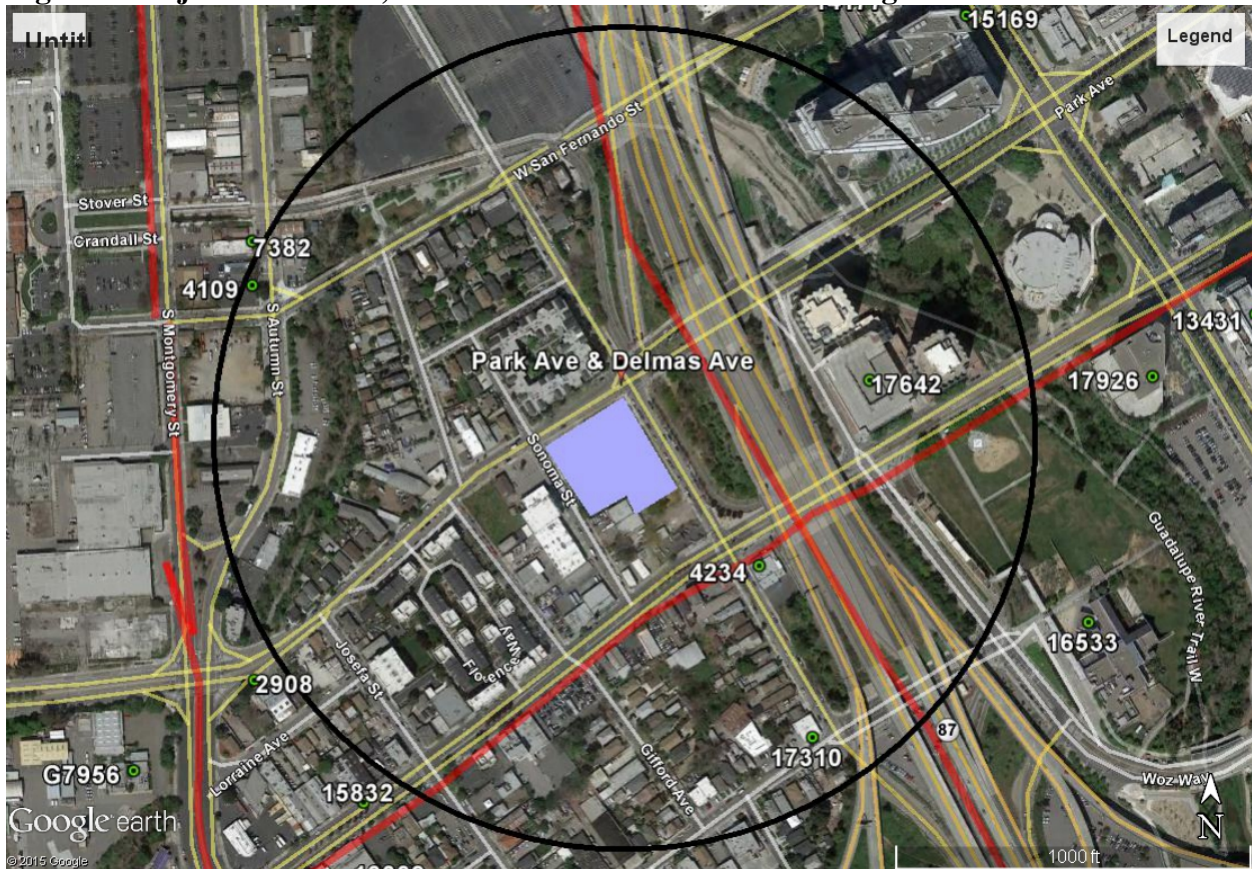
Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Health Risks and Hazards for New Sources			
Excess Cancer Risk	>10 per one million		
Chronic or Acute Hazard Index	>1.0		
Incremental annual average PM _{2.5}	>0.3 µg/m ³		
Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000 foot zone of influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	>100 per one million		
Chronic Hazard Index	>10.0		
Annual Average PM _{2.5}	>0.8 µg/m ³		
Greenhouse Gas Emissions			
GHG Annual Emissions	1,100 metric tons or 4.6 metric tons per capita		
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM ₁₀ = coarse 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, and GHG = greenhouse gas.			

Project Operation Impacts – TAC Sources Affecting the Project

Operation of this residential project is not considered a source of TAC or fine particulate matter (PM_{2.5}) emissions. As a result, the project operation would not cause emissions that expose sensitive receptors to unhealthy air pollutant levels. Because the project would not be a source of TACs, it would not contribute cumulatively to unhealthy exposure to TACs.

The project would include new sensitive receptors. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. A review of the area indicates that there are two State Highways within 1,000 feet of the site that could adversely affect new residences and three listed stationary sources of air pollution. There are thresholds that address both the impact of single and cumulative TAC sources upon projects that include new sensitive receptors (see Table 1). The analysis of the stationary source and roadways used screening data provided by BAAQMD to identify the potential cancer risk and PM_{2.5} exposure risks. Figure 1 shows the project site and TAC sources within 1,000 feet.

Figure 1 Project Site with 1,000-foot Radius Shown for Screening TAC Sources



Roadways

The project is located near two State Highways: Route 87 (Guadalupe Freeway) and Route 82 (W. San Carlos Street). Traffic on these roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity the roadway.

BAAQMD provides *Highway Screening Analysis Tool* that was used to assess potential excess cancer risk and annual PM_{2.5} concentrations from State Route 87 and 82. This tool allows predictions of cancer risk, non-cancer hazards and PM_{2.5} concentrations based on the distance and orientation to the highway. The cancer risks obtained from this tool were adjusted using a factor of 1.3744 to account for newer guidance issued by the State Office of Environmental Health and Hazards Assessment (OEHHA)³. As shown in Table 2, the cancer risk, annual PM_{2.5} concentration and hazard index associated with each of these single sources are below the significance threshold.

³ Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.

Table 2. Highway Cancer Risk, PM_{2.5} Concentration, and Hazard Index

Roadway	Closest Distance from Project	Cancer Risk (per million)	PM _{2.5} Concentration (µg/m ³)	Acute and Chronic Hazard (HI)
State Route 87 Guadalupe Freeway (using Link 532, 6ft elevation)	240 ft. West	8.1	0.05	<0.01
State Route 82, W. San Carlos St (using Link 215 , 6ft elevation)	160 ft. North	5.2	0.04	<0.01
<i>BAAQMD Thresholds</i>		<i>10.0</i>	<i>0.3</i>	<i>1.0</i>

Stationary Sources

Two operational stationary sources of TACs were identified within 1,000 feet of the project site using the BAAQMD *Stationary Source Screening Analysis Tool*.⁴ This tool provides screening levels of cancer risk, PM_{2.5} and non-cancer risk for the identified sources. Levels were adjusted for distance using BAAQMD's *Diesel BUG Distance Multiplier*. The cancer risks obtained from this tool were adjusted using a factor of 1.3744 to account for newer guidance issued by the State OEHHA⁵. Sources that had risk or PM_{2.5} levels listed as 0.00 were not included. The community risk levels from this source are shown in Table 3.

Table 3. Stationary Sources and Associated TAC Levels

Source*	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Acute or Chronic Hazard Index
Plant #4234 – Diamond Cleaners at 398 W. San Carlos St over 300 feet	0.0*	0.00	<0.02
Plant 17642 Legacy Partners Commercial, Inc. at 333 W. San Carlos St at 600 feet or further	1.8	<0.01	<0.01
<i>BAAQMD Single Source Threshold</i>	<i>10.0</i>	<i>0.3</i>	<i>1.0</i>

*Notes: 1) BAAQMD does not consider dry cleaners to be a source of TAC emissions since they must discontinue TAC emissions by 2023 and most have already phased the emission out.

2) Plants 1694 and 1639 are not listed since published community risk levels were 0.0 or lower for each category.

Combined Community Risk Impacts to Project Sensitive Receptors

Based on the data shown in Tables 2 and 3, the cumulative excess cancer risks would be less than 15.1 per million, PM_{2.5} exposures of less than 0.1µg/m³, and a HI below 0.1. These exposures do not exceed the cumulative source thresholds of significance identified by BAAQMD for annual PM_{2.5} concentrations.

⁴ See <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx> , accessed December 10, 2014.

⁵ Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and PM_{2.5}.⁶ The closest sensitive receptors to the project site are residences across Park Avenue to the north, beyond Sonoma Street to the west and a single-family residence just to the southwest. Other residences are located south of W. San Carlos Street (see Figure 2). Emissions and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Health Impact Evaluation Methodology

A health risk assessment for exposure to TACs requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and CARB develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.⁷ These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.⁸ This health risk assessment used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the current BAAQMD guidelines, BAAQMD has not formally adopted recommended procedures for applying the newest OEHHA guidelines. BAAQMD is in the process of developing new guidance and has provided initial information on exposure parameter values they are proposing for use.⁹ The OEHHA guidelines and newly recommended BAAQMD exposure parameters were used in this evaluation.

Cancer Risk

⁶ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

⁷ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

⁸ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

⁹ Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Functionally, cancer risk is calculated using the following parameters and formulas:

$$\text{Cancer Risk (per million)} = CPF \times \text{Inhalation Dose} \times ASF \times ED/AT \times FAH \times 10^6$$

Where:

- CPF = Cancer potency factor (mg/kg-day)⁻¹
- ASF = Age sensitivity factor for specified age group
- ED = Exposure duration (years)
- AT = Averaging time for lifetime cancer risk (years)
- FAH = Fraction of time spent at home (unitless)

$$\text{Inhalation Dose} = C_{\text{air}} \times DBR \times A \times (EF/365) \times 10^{-6}$$

Where:

- C_{air} = concentration in air (µg/m³)
- DBR = daily breathing rate (L/kg body weight-day)
- A = Inhalation absorption factor
- EF = Exposure frequency (days/year)
- 10⁻⁶ = Conversion factor

The health risk parameters used in this evaluation are summarized in Table 4.

Table 4. Health Risk Parameters Used for Cancer Risk Calculations

Parameter	Exposure Type	Infant		Child	Adult
	Age Range	3 rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	572	261
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		1.0	1.0	1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur. Typically, for construction projects, the primary TAC of concern with non-cancer health effects is DPM. For DPM, the chronic inhalation REL is 5 micrograms per cubic meter (µg/m³).

Annual PM_{2.5} Concentrations

While not a TAC, PM_{2.5} has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under CEQA. The thresholds of significance for PM_{2.5} (project level and cumulative) are in terms of an increase in the annual average concentration. When considering PM_{2.5} impacts, the contribution from all sources of PM_{2.5} emissions should be included. For projects with potential impacts from construction projects, the PM_{2.5} impacts should include those from vehicle exhaust emissions, PM_{2.5} generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust.

Construction Period Emissions

Construction activity is anticipated to include demolition, grading and site preparation, trenching, building construction, and paving. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2013.2.2 (CalEEMod). The anticipated construction schedule and equipment usage assumptions were provided for this modeling. The proposed project land uses were input into CalEEMod, which included 117 dwelling units entered as “Apartments Mid Rise,” 1,000 square feet of “Quality Restaurant” and 51,520 square feet entered as “Enclosed Parking with Elevator” on a 1.65-acre site. Construction of the project is expected to occur over an approximate 20-month period beginning in late 2016 or early 2017.

Construction period emissions were modeled using CalEEMod along with the anticipated project construction activity. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use for different phases of construction, were based on a site-specific construction schedule. The CalEEMod modeling included emissions from truck and worker travel, assumed to occur over a distance of 1 mile on or near the site.

The CalEEMod model provided total annual PM_{2.5} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.0791 tons (158 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of 1 mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.035 tons (70 pounds) for the overall construction period.

Dispersion Modeling

The EPA AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at existing sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.¹⁰ The AERMOD modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. to 4 p.m., when the majority of construction activity would occur. Figure 2 shows the project site and nearby sensitive receptor (residences) locations where health impacts were evaluated.

The modeling used a five-year data set (2009 - 2013) of hourly meteorological data from the San Jose Airport that was prepared for use with the AERMOD model by CARB for use in health risk assessments. Annual DPM and PM_{2.5} concentrations from construction activities during the period 2017 - 2018 were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.8 feet) were used to represent the breathing heights of residents on first and second floor levels of nearby residences, apartments, and townhomes.

The maximum-modeled DPM and PM_{2.5} concentrations occurred southwest of the construction site at a residence near the site. The location where the maximum PM_{2.5} and DPM concentrations occurred (and maximum cancer risk) is identified on Figure 2.

¹⁰ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

Predicted Cancer Risk and Hazards

Increased cancer risks were calculated using the maximum modeled concentrations for the 2017-2018 period and BAAQMD recommended risk assessment methods for infant exposure (3rd trimester through two years of age) and for an adult exposure. The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations.¹¹ Infant, child, and adult exposures were assumed to occur at all residences through the entire construction period.

Results of the assessment for project construction indicate the maximum incremental residential child cancer risk at the maximally exposed individual (MEI) receptor would be 13.0 in one million and the residential adult incremental cancer risk would be 0.7 in one million. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhaust and fugitive dust emissions, was 0.24µg/m³. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.124 µg/m³, which is much lower than the REL. The maximum computed HI based on this DPM concentration is 0.02 which is lower than the BAAQMD significance criterion of a HI greater than 1.0.

The project would have a *significant* impact with respect to community risk caused by project construction activities, since cancer risk is above the single-source thresholds of 10.0 per million. *Attachment 1* includes the emission calculations and source information used in the modeling and the cancer risk calculations.

Combined Construction Risk Assessment

In addition to construction of the project, there are other sources identified within 1,000 feet of the project site that are sources of TACs (see Figure 1). The impact of these sources were predicted using the same BAAQMD screening tools used to predict their impacts on the proposed project residences. Table 5 identifies the effect of each source and the cumulative community risk levels.

¹¹ Bay Area Air Quality Management District (BAAQMD), 2010, *Air Toxics NSR Program Health Risk Screening Analysis Guidelines*, January.

Figure 2. Project Construction Site and Locations of Off-Site Sensitive Receptors and TAC Impacts

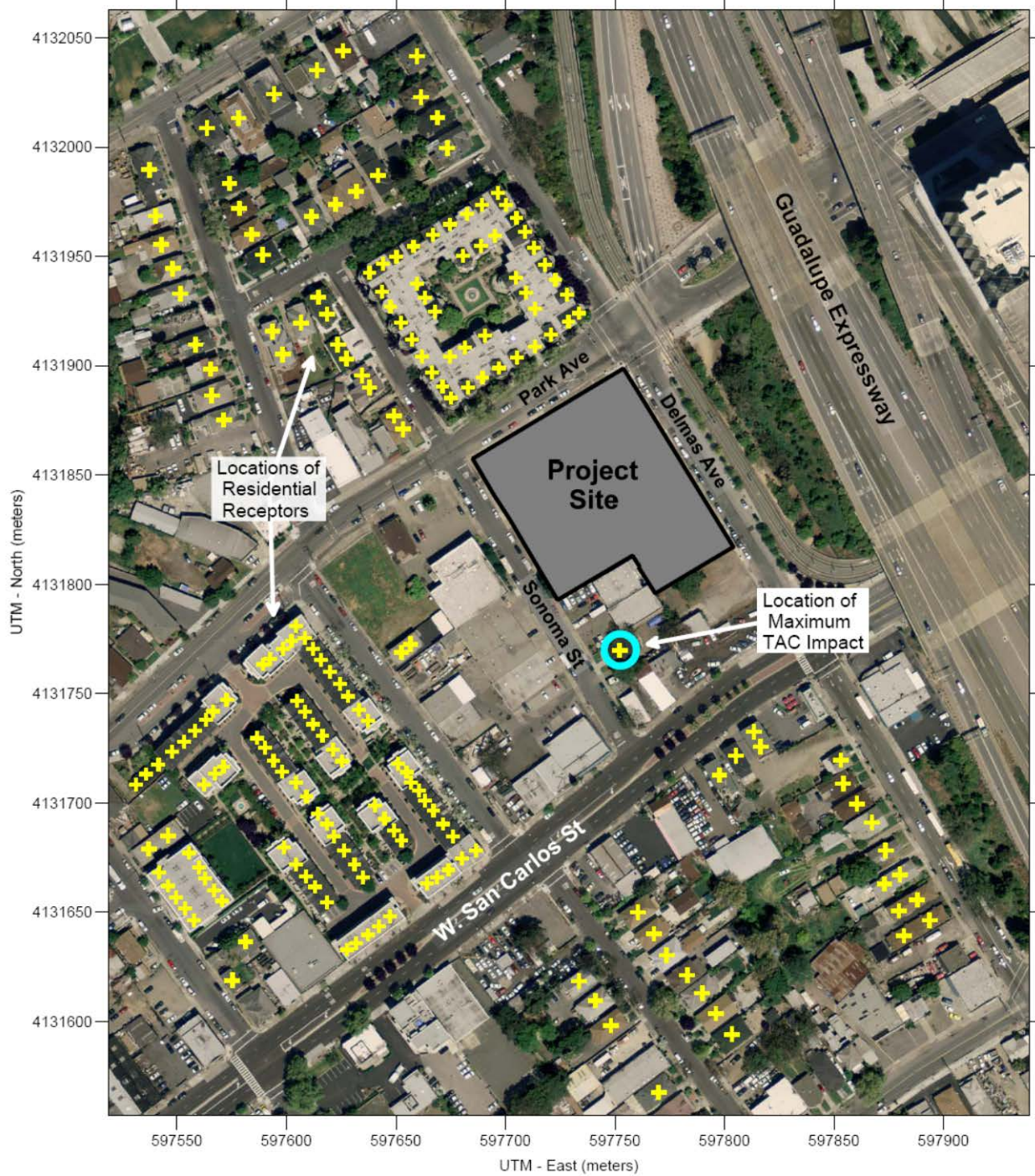


Table 5. Combined Construction Source Cancer Risks, PM_{2.5} Concentrations, and Hazard Index

Source	Cancer Risk (per million)	PM_{2.5} Concentration (µg/m³)	Acute and Chronic Hazard (HI)
Proposed Project Construction	Child = 13.0 Adult = 0.7	0.24	0.02
State Route 87 at 400 ft. west	3.7	0.02	<0.01
State Route 82 at 100 ft. north	6.3	0.05	<0.01
Stationary Sources			
Stationary Source - Plant 17642 Legacy Partners Commercial, Inc. at 333 W. San Carlos St at >600 feet	1.8	<0.01	<0.01
Total	Child = 24.8 Adult = 12.5	0.31	0.03
<i>BAAQMD Thresholds</i>	<i>100</i>	<i>0.8</i>	<i>10.0</i>
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>

Conclusion for Construction Impacts

Cancer risk from construction activities would exceed the single-source significance threshold at the residence with the maximum impact, assuming there is a infant at that receptor site. Exposures for children or adults would be below the significance threshold. The project construction activities would not increase annual PM_{2.5} concentrations or non-cancer hazards above the significance thresholds. The combination of construction activities with exposure to other TAC sources in the areas would have cumulative risk, hazards and annual PM_{2.5} concentrations below the significance thresholds. Since cancer risk from construction activities exceeds the significance threshold, assuming an infant is present at the maximally exposed individual receptor, the impact is considered significant.

Mitigation Measure AQ-1: Include basic measures to control dust and exhaust during construction.

During any construction period which causes ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ-2: Use Construction equipment that has low diesel particulate matter exhaust emissions.

The project shall develop a plan demonstrating that the off-road equipment used to on-site to construct the project would achieve a fleet-wide average 30 percent reduction in PM_{2.5} exhaust emissions. One feasible plan to achieve this reduction would include the following:

All mobile diesel-powered off-road equipment larger than 50 horsepower and operating on the site for more than two days continuously shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent. Note that the construction contractor could use other measures to minimize construction period DPM emission to reduce the predicted cancer risk below the thresholds. The use of equipment that includes CARB-certified Level 3 Diesel Particulate Filters¹² or alternatively-fueled equipment (i.e., non-diesel) would meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce community risk impacts to less than significant.

Effectiveness of Mitigation

¹² See <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent. Based on modeling using CalEEMod (Mitigated Output), emissions from equipment that meets U.S. EPA particulate matter emissions standards for Tier 2 engines for the equipment larger than 50 horsepower would reduce construction emissions by over 40 percent. This would correspondingly reduce cancer risks below 7.8 chances per million. This cancer risk would be below the BAAQMD thresholds of greater than 10.0 per one million for cancer risk. Therefore, *after implementation of these recommended mitigation measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

Greenhouse Gas Emissions

As discussed previously, construction period emissions were computed using the CalEEMod model. This model also computes GHG emissions associated with construction equipment and construction-related traffic. Operational air emissions from the project would be generated primarily from autos driven by future residents. CalEEMod was also used to predict emissions from operation of the site assuming full build out of the project. Model inputs are summarized below.

Model Year

The model uses mobile emission factors from the CARB's EMFAC2011 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. The Year 2018 was analyzed since it is the first full year that the project could conceivably be occupied. Use of this date is considered conservative, as emissions associated with build-out in later years would be lower.

Land Use Descriptions

The proposed project land uses were input into CalEEMod, which included 123 dwelling units entered as "Apartments Mid Rise," 1,000 square feet of "Quality Restaurant" and 54,333 square feet entered as "Enclosed Parking with Elevator" on a 1.65-acre site.

Trip Generation Rates

The default traffic generation rate, trip lengths and trip types specified by CalEEMod for Santa Clara County were used.

Energy

Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption from the Pacific Gas & Electric (PG&E) utilities were used. CalEEMod uses a default rate of 641 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 certified emission rate. PG&E's latest certified rate is for 2013, which was 429 pounds of CO₂ per megawatt of electricity produced.

Other Inputs

Default model assumptions for GHG emissions associated with area sources, solid waste generation and water/wastewater use were applied to the project. No new wood-burning fireplaces are allowed in the Bay Area, but it was assumed that new residences would include gas-powered fireplaces.

Service Population

Project service population is the sum of future residences. The future number of residences was estimated at 380 persons and was based on the latest U.S. Census data for average persons per household in San Jose (3.09 persons).¹³

Construction Emissions

GHG emissions associated with construction were computed to be 440 MT of CO₂e, anticipated to occur over the entire construction period of 20 months. 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. Best management practices assumed to be incorporated into construction of the proposed project include, but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the default vehicle trip generation rates, predicted annual emissions associated with operation of the fully-developed site under the proposed project. In 2018, annual emissions resulting from operation of the proposed project are predicted to be 970 MT of CO₂e. These emissions would not exceed the BAAQMD threshold of 1,100 MT of CO₂e/yr. In addition, the emissions would not exceed the GHG efficiency threshold of 4.6 MT/year/capita. As shown in Table 5, project service population emissions would be 2.5 MT of CO₂e/year/service population, which is below the BAAQMD significance threshold. Therefore, this would be considered a *less-than-significant impact*.

Attachment 2 includes the CalEEMod output for computing GHG emissions.

¹³ City of San Jose Fact Sheet: <https://www.sanjoseca.gov/DocumentCenter/View/780> Accessed March 5, 2015.

Table 5. Annual Project GHG Emissions (CO₂e) in Metric Tons

Source Category	2018 Project Emissions
Area	7
Energy Consumption	228
Mobile	733
Solid Waste Generation	26
Water Usage	23
Project Total	1,017
Service Population Emissions¹	2.7
<i>BAAQMD Threshold</i>	1,100 MT CO ₂ e/year or 4.6 MT CO ₂ e/year/S.P.

Note: ¹Based on a project service population of 362 future residents.

Attachment 1: Construction Analysis and CalEEMod Modeling Output

Park Apartments, Delmas St, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
2016	Construction	0.0922	CON_DPM	184.4	0.05613	7.07E-03	6,930	1.02E-06
2017	Construction	0.0187	CON_DPM	37.4	0.01139	1.43E-03	6,930	2.07E-07
Total		0.111		222	0.0675	0.0085		

hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions			Modeled Area (m ²)	PM2.5 Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
2016	Construction	CON_FUG	0.0718	143.6	0.04371	5.51E-03	6,930	7.95E-07
2017	Construction	CON_FUG	0.0005	0.9	0.00028	3.53E-05	6,930	5.09E-09
Total			0.0723	144.5	0.0440	0.0055		

hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

Park Apartments, Delmas St, San Jose, CA - Project Construction Health Impact Summary

Maximum Impacts at Off-Site Residences

Construction Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m ³)
	Exhaust PM2.5/DPM (µg/m ³)	Fugitive PM2.5 (µg/m ³)	Child	Adult		
2016	0.1236	0.1153	10.82	0.56	0.025	0.239
2017	0.0251	0.0007	2.20	0.11	0.005	0.026
Total	-	-	13.0	0.7	-	-
Maximum Annual	0.1236	0.1153	-	-	0.025	0.24

Park Apartments, Delmas St, San Jose, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

Where: C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		DPM Conc (ug/m3)		Adjust Factor		Modeled		Adjust Factor			
		Year	Annual			Year	Annual				
1	1	2016	0.1236	10	10.82	2016	0.1236	1	0.56	0.1153	0.239
2	1	2017	0.0251	10	2.20	2017	0.0251	1	0.11	0.0007	0.026
3	1		0.0000	4.75	0.00		0.0000	1	0.00		
4	1		0.0000	3	0.00		0.0000	1	0.00		
5	1		0.0000	3	0.00		0.0000	1	0.00		
6	1		0.0000	3	0.00		0.0000	1	0.00		
7	1		0.0000	3	0.00		0.0000	1	0.00		
8	1		0.0000	3	0.00		0.0000	1	0.00		
9	1		0.0000	3	0.00		0.0000	1	0.00		
10	1		0.0000	3	0.00		0.0000	1	0.00		
11	1		0.0000	3	0.00		0.0000	1	0.00		
12	1		0.0000	3	0.00		0.0000	1	0.00		
13	1		0.0000	3	0.00		0.0000	1	0.00		
14	1		0.0000	3	0.00		0.0000	1	0.00		
15	1		0.0000	3	0.00		0.0000	1	0.00		
16	1		0.0000	3	0.00		0.0000	1	0.00		
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.		
.		
.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk					13.0				0.7		

Park Apartments, Delmas St, San Jose, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 4.5 meters

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

Where: C_{air} = concentration in air (ug/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		DPM Conc (ug/m ³)		Adjust Factor		Modeled		Adjust Factor			
		Year	Annual			Year	Annual				
1	1	2016	0.1064	10	9.32	2016	0.1064	1	0.48	0.1068	0.213
2	1	2017	0.0216	10	1.89	2017	0.0216	1	0.10	0.0007	0.022
3	1		0.0000	4.75	0.00		0.0000	1	0.00		
4	1		0.0000	3	0.00		0.0000	1	0.00		
5	1		0.0000	3	0.00		0.0000	1	0.00		
6	1		0.0000	3	0.00		0.0000	1	0.00		
7	1		0.0000	3	0.00		0.0000	1	0.00		
8	1		0.0000	3	0.00		0.0000	1	0.00		
9	1		0.0000	3	0.00		0.0000	1	0.00		
10	1		0.0000	3	0.00		0.0000	1	0.00		
11	1		0.0000	3	0.00		0.0000	1	0.00		
12	1		0.0000	3	0.00		0.0000	1	0.00		
13	1		0.0000	3	0.00		0.0000	1	0.00		
14	1		0.0000	3	0.00		0.0000	1	0.00		
15	1		0.0000	3	0.00		0.0000	1	0.00		
16	1		0.0000	3	0.00		0.0000	1	0.00		
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.		
.		
.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk					11.2				0.6		

Park and Delmas
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	51.52	1000sqft	1.18	54,333.00	0
Quality Restaurant	1.00	1000sqft	0.02	1,000.00	0
Apartments Mid Rise	123.00	Dwelling Unit	3.24	115,456.00	380

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Using PG&E 2013 Certified Rate from Climate Registry
 Land Use - Based on 2016 plan sheet (Title sheet) SJ persons per household = 3.09
 Construction Phase - Based on provided 2016 construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list + added default equipment
 Off-road Equipment - Based on provided construction schedule/equipment list
 Off-road Equipment - Based on provided construction schedule/equipment list
 Trips and VMT - Added demo, cement and asphalt trips. Only on- and near-site travel
 Demolition - Based on provided construction schedule/equipment list
 Grading - Based on provided construction schedule/equipment list + default acres disturbed
 Architectural Coating -
 Vehicle Trips -
 Construction Off-road Equipment Mitigation - Tier 2 mobile, Tier 4 or DPF Level 3 portable and BMPs for fugitive PM2.5
 Off-road Equipment - Based on 2016 provided schedule and equipment list

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstructionPhase	NumDays	230.00	116.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	8.00	32.00
tblConstructionPhase	NumDays	18.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
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tblConstructionPhase	PhaseEndDate	10/11/2017	9/26/2017
tblConstructionPhase	PhaseEndDate	3/7/2018	1/23/2018
tblConstructionPhase	PhaseEndDate	3/28/2017	3/21/2017
tblConstructionPhase	PhaseEndDate	10/23/2017	1/26/2018
tblConstructionPhase	PhaseEndDate	1/27/2017	2/10/2017
tblConstructionPhase	PhaseEndDate	4/5/2017	4/17/2017
tblConstructionPhase	PhaseStartDate	1/24/2018	9/1/2017
tblConstructionPhase	PhaseStartDate	4/18/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	9/27/2017	8/15/2017
tblConstructionPhase	PhaseStartDate	2/11/2017	2/4/2017
tblConstructionPhase	PhaseStartDate	10/17/2017	1/22/2018
tblConstructionPhase	PhaseStartDate	1/14/2017	1/28/2017
tblConstructionPhase	PhaseStartDate	3/22/2017	4/1/2017
tblGrading	MaterialExported	0.00	22,000.00
tblGrading	MaterialImported	0.00	1,000.00

tblLandUse	LandUseSquareFeet	51,520.00	54,333.00
tblLandUse	LandUseSquareFeet	123,000.00	115,456.00
tblLandUse	Population	352.00	380.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
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tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
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tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
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tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
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tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.2183	1.3113	1.5627	1.7700e-003	0.0758	0.0316	0.1074	0.0346	0.0315	0.0661	0.0000	156.6377	156.6377	0.0364	0.0000	157.4012
2018	7.8600e-003	0.1046	0.1041	1.4000e-004	9.1000e-004	2.8500e-003	3.7500e-003	2.5000e-004	2.8400e-003	3.0900e-003	0.0000	11.8139	11.8139	3.0400e-003	0.0000	11.8777
Total	1.2261	1.4159	1.6668	1.9100e-003	0.0767	0.0344	0.1111	0.0348	0.0343	0.0691	0.0000	168.4515	168.4515	0.0394	0.0000	169.2788

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	8.30	12.73	0.24	0.00	0.00	59.37	31.16	0.00	56.62	39.31	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/13/2017	5	10	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/4/2017	3/21/2017	5	32	
4	Trenching	Trenching	4/1/2017	4/17/2017	5	11	
5	Exterior Garage/Podium	Building Construction	4/1/2017	9/26/2017	5	127	
6	Exterior Framing	Building Construction	8/15/2017	1/23/2018	5	116	
7	Interior Construction	Architectural Coating	9/1/2017	10/16/2017	5	32	
8	Paving	Paving	1/22/2018	1/26/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 8

Acres of Paving: 0

Residential Indoor: 233,798; Residential Outdoor: 77,933; Non-Residential Indoor: 83,000; Non-Residential Outdoor: 27,667 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	1	3.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Off-Highway Trucks	1	3.00	400	0.38
Grading	Off-Highway Trucks	3	4.00	400	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	1	2.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Excavators	1	2.00	162	0.38
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Skid Steer Loaders	1	2.00	64	0.37
Grading	Rubber Tired Loaders	1	2.00	199	0.36

Trenching	Excavators	1	8.00	162	0.38
Exterior Garage/Podium	Cranes	0	7.00	226	0.29
Exterior Garage/Podium	Forklifts	2	4.00	89	0.20
Exterior Garage/Podium	Generator Sets	0	8.00	84	0.74
Trenching	Skid Steer Loaders	1	8.00	64	0.37
Exterior Garage/Podium	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Exterior Garage/Podium	Welders	0	8.00	46	0.45
Exterior Framing	Cranes	1	6.00	226	0.29
Exterior Framing	Forklifts	2	8.00	89	0.20
Exterior Framing	Generator Sets	0	8.00	84	0.74
Exterior Framing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Exterior Framing	Welders	1	8.00	46	0.45
Exterior Garage/Podium	Pumps	1	1.00	84	0.74
Interior Construction	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	6.00	130	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Exterior Garage/Podium	Air Compressors	1	1.00	78	0.48
Interior Construction	Aerial Lifts	1	8.00	62	0.31

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
Demolition	2	5.00	0.00	19.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	1	3.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	11	28.00	0.00	2,875.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Exterior Garage/Podium	4	112.00	22.00	1,060.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Exterior Framing	4	112.00	22.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Interior Construction	2	22.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	10.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0700e-003	0.0000	2.0700e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0261	0.0152	3.0000e-005		1.0600e-003	1.0600e-003		9.7000e-004	9.7000e-004	0.0000	3.2187	3.2187	9.9000e-004	0.0000	3.2394
Total	2.3200e-003	0.0261	0.0152	3.0000e-005	2.0700e-003	1.0600e-003	3.1300e-003	3.1000e-004	9.7000e-004	1.2800e-003	0.0000	3.2187	3.2187	9.9000e-004	0.0000	3.2394

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	9.0000e-005	3.1000e-004	1.4800e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0461	0.0461	0.0000	0.0000	0.0461
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	6.0000e-005	2.0000e-005	2.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0201	0.0201	0.0000	0.0000	0.0201
Total	1.5000e-004	3.3000e-004	1.7400e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0662	0.0662	0.0000	0.0000	0.0663

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0700e-003	0.0000	2.0700e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	0.0276	0.0207	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	3.2187	3.2187	9.9000e-004	0.0000	3.2394
Total	9.9000e-004	0.0276	0.0207	3.0000e-005	2.0700e-003	7.1000e-004	2.7800e-003	3.1000e-004	7.1000e-004	1.0200e-003	0.0000	3.2187	3.2187	9.9000e-004	0.0000	3.2394

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	9.0000e-005	3.1000e-004	1.4800e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0461	0.0461	0.0000	0.0000	0.0461
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	6.0000e-005	2.0000e-005	2.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0201	0.0201	0.0000	0.0000	0.0201
Total	1.5000e-004	3.3000e-004	1.7400e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0662	0.0662	0.0000	0.0000	0.0663

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9500e-003	0.0660	0.0497	4.0000e-005		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	4.1277	4.1277	1.2600e-003	0.0000	4.1543
Total	5.9500e-003	0.0660	0.0497	4.0000e-005	0.0301	3.0600e-003	0.0332	0.0166	2.8200e-003	0.0194	0.0000	4.1277	4.1277	1.2600e-003	0.0000	4.1543

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	1.0000e-005	1.5000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0121	0.0121	0.0000	0.0000	0.0121
Total	4.0000e-005	1.0000e-005	1.5000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0121	0.0121	0.0000	0.0000	0.0121

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					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	0.0373	0.0234	4.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	4.1277	4.1277	1.2600e-003	0.0000	4.1543
Total	1.0800e-003	0.0373	0.0234	4.0000e-005	0.0301	7.9000e-004	0.0309	0.0166	7.9000e-004	0.0173	0.0000	4.1277	4.1277	1.2600e-003	0.0000	4.1543

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	1.0000e-005	1.5000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0121	0.0121	0.0000	0.0000	0.0121
Total	4.0000e-005	1.0000e-005	1.5000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0121	0.0121	0.0000	0.0000	0.0121

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0296	0.0000	0.0296	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0411	0.4616	0.2676	5.3000e-004		0.0204	0.0204		0.0187	0.0187	0.0000	49.0143	49.0143	0.0150	0.0000	49.3296
Total	0.0411	0.4616	0.2676	5.3000e-004	0.0296	0.0204	0.0500	0.0139	0.0187	0.0326	0.0000	49.0143	49.0143	0.0150	0.0000	49.3296

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	0.0131	0.0474	0.2240	8.0000e-005	1.2400e-003	3.1000e-004	1.5600e-003	3.4000e-004	2.9000e-004	6.3000e-004	0.0000	6.9783	6.9783	1.0000e-004	0.0000	6.9805
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	3.7000e-004	4.5900e-003	0.0000	3.3000e-004	1.0000e-005	3.4000e-004	9.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.3604	0.3604	3.0000e-005	0.0000	0.3609
Total	0.0142	0.0478	0.2286	8.0000e-005	1.5700e-003	3.2000e-004	1.9000e-003	4.3000e-004	3.0000e-004	7.2000e-004	0.0000	7.3387	7.3387	1.3000e-004	0.0000	7.3414

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					0.0296	0.0000	0.0296	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0148	0.4284	0.3009	5.3000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	49.0142	49.0142	0.0150	0.0000	49.3296
Total	0.0148	0.4284	0.3009	5.3000e-004	0.0296	0.0112	0.0408	0.0139	0.0112	0.0251	0.0000	49.0142	49.0142	0.0150	0.0000	49.3296

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	0.0131	0.0474	0.2240	8.0000e-005	1.2400e-003	3.1000e-004	1.5600e-003	3.4000e-004	2.9000e-004	6.3000e-004	0.0000	6.9783	6.9783	1.0000e-004	0.0000	6.9805
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	3.7000e-004	4.5900e-003	0.0000	3.3000e-004	1.0000e-005	3.4000e-004	9.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.3604	0.3604	3.0000e-005	0.0000	0.3609
Total	0.0142	0.0478	0.2286	8.0000e-005	1.5700e-003	3.2000e-004	1.9000e-003	4.3000e-004	3.0000e-004	7.2000e-004	0.0000	7.3387	7.3387	1.3000e-004	0.0000	7.3414

3.5 Trenching - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5900e-003	0.0297	0.0265	4.0000e-005		1.5000e-003	1.5000e-003		1.3800e-003	1.3800e-003	0.0000	3.7484	3.7484	1.1500e-003	0.0000	3.7725
Total	2.5900e-003	0.0297	0.0265	4.0000e-005		1.5000e-003	1.5000e-003		1.3800e-003	1.3800e-003	0.0000	3.7484	3.7484	1.1500e-003	0.0000	3.7725

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	7.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222
Total	7.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222

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	1.6700e-003	0.0359	0.0307	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.7484	3.7484	1.1500e-003	0.0000	3.7725
Total	1.6700e-003	0.0359	0.0307	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.7484	3.7484	1.1500e-003	0.0000	3.7725

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	7.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222
Total	7.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0221	0.0221	0.0000	0.0000	0.0222

3.6 Exterior Garage/Podium - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0217	0.1751	0.1295	1.8000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618
Total	0.0217	0.1751	0.1295	1.8000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618

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	4.8300e-003	0.0175	0.0826	3.0000e-005	4.6000e-004	1.2000e-004	5.7000e-004	1.3000e-004	1.1000e-004	2.3000e-004	0.0000	2.5729	2.5729	4.0000e-005	0.0000	2.5737
Vendor	0.0104	0.0406	0.1491	7.0000e-005	1.2700e-003	3.2000e-004	1.5900e-003	3.7000e-004	2.9000e-004	6.6000e-004	0.0000	5.9283	5.9283	7.0000e-005	0.0000	5.9298
Worker	0.0177	5.8100e-003	0.0728	8.0000e-005	5.2900e-003	9.0000e-005	5.3800e-003	1.4100e-003	9.0000e-005	1.5000e-003	0.0000	5.7207	5.7207	4.2000e-004	0.0000	5.7294
Total	0.0329	0.0639	0.3045	1.8000e-004	7.0200e-003	5.3000e-004	7.5400e-003	1.9100e-003	4.9000e-004	2.3900e-003	0.0000	14.2219	14.2219	5.3000e-004	0.0000	14.2329

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	7.7900e-003	0.1609	0.1254	1.8000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618
Total	7.7900e-003	0.1609	0.1254	1.8000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618

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	4.8300e-003	0.0175	0.0826	3.0000e-005	4.6000e-004	1.2000e-004	5.7000e-004	1.3000e-004	1.1000e-004	2.3000e-004	0.0000	2.5729	2.5729	4.0000e-005	0.0000	2.5737
Vendor	0.0104	0.0406	0.1491	7.0000e-005	1.2700e-003	3.2000e-004	1.5900e-003	3.7000e-004	2.9000e-004	6.6000e-004	0.0000	5.9283	5.9283	7.0000e-005	0.0000	5.9298
Worker	0.0177	5.8100e-003	0.0728	8.0000e-005	5.2900e-003	9.0000e-005	5.3800e-003	1.4100e-003	9.0000e-005	1.5000e-003	0.0000	5.7207	5.7207	4.2000e-004	0.0000	5.7294
Total	0.0329	0.0639	0.3045	1.8000e-004	7.0200e-003	5.3000e-004	7.5400e-003	1.9100e-003	4.9000e-004	2.3900e-003	0.0000	14.2219	14.2219	5.3000e-004	0.0000	14.2329

3.7 Exterior Framing - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0697	0.5526	0.3207	4.9000e-004		0.0340	0.0340		0.0318	0.0318	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490
Total	0.0697	0.5526	0.3207	4.9000e-004		0.0340	0.0340		0.0318	0.0318	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490

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	8.0700e-003	0.0316	0.1162	5.0000e-005	9.9000e-004	2.5000e-004	1.2400e-003	2.9000e-004	2.3000e-004	5.1000e-004	0.0000	4.6213	4.6213	6.0000e-005	0.0000	4.6224
Worker	0.0138	4.5300e-003	0.0568	6.0000e-005	4.1200e-003	7.0000e-005	4.1900e-003	1.1000e-003	7.0000e-005	1.1700e-003	0.0000	4.4594	4.4594	3.2000e-004	0.0000	4.4662
Total	0.0218	0.0362	0.1730	1.1000e-004	5.1100e-003	3.2000e-004	5.4300e-003	1.3900e-003	3.0000e-004	1.6800e-003	0.0000	9.0807	9.0807	3.8000e-004	0.0000	9.0887

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	0.0175	0.4094	0.3007	4.9000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490
Total	0.0175	0.4094	0.3007	4.9000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490

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	8.0700e-003	0.0316	0.1162	5.0000e-005	9.9000e-004	2.5000e-004	1.2400e-003	2.9000e-004	2.3000e-004	5.1000e-004	0.0000	4.6213	4.6213	6.0000e-005	0.0000	4.6224
Worker	0.0138	4.5300e-003	0.0568	6.0000e-005	4.1200e-003	7.0000e-005	4.1900e-003	1.1000e-003	7.0000e-005	1.1700e-003	0.0000	4.4594	4.4594	3.2000e-004	0.0000	4.4662
Total	0.0218	0.0362	0.1730	1.1000e-004	5.1100e-003	3.2000e-004	5.4300e-003	1.3900e-003	3.0000e-004	1.6800e-003	0.0000	9.0807	9.0807	3.8000e-004	0.0000	9.0887

3.7 Exterior Framing - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.0836	0.0521	8.0000e-005		4.9400e-003	4.9400e-003		4.6200e-003	4.6200e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001
Total	0.0103	0.0836	0.0521	8.0000e-005		4.9400e-003	4.9400e-003		4.6200e-003	4.6200e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001

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	1.2200e-003	5.0500e-003	0.0188	1.0000e-005	1.7000e-004	4.0000e-005	2.1000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7794	0.7794	1.0000e-005	0.0000	0.7796
Worker	2.1900e-003	7.0000e-004	8.7800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7373	0.7373	5.0000e-005	0.0000	0.7384
Total	3.4100e-003	5.7500e-003	0.0276	2.0000e-005	8.8000e-004	5.0000e-005	9.3000e-004	2.4000e-004	5.0000e-005	2.9000e-004	0.0000	1.5167	1.5167	6.0000e-005	0.0000	1.5180

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	3.0100e-003	0.0703	0.0516	8.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001
Total	3.0100e-003	0.0703	0.0516	8.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001

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	1.2200e-003	5.0500e-003	0.0188	1.0000e-005	1.7000e-004	4.0000e-005	2.1000e-004	5.0000e-005	4.0000e-005	9.0000e-005	0.0000	0.7794	0.7794	1.0000e-005	0.0000	0.7796
Worker	2.1900e-003	7.0000e-004	8.7800e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7373	0.7373	5.0000e-005	0.0000	0.7384
Total	3.4100e-003	5.7500e-003	0.0276	2.0000e-005	8.8000e-004	5.0000e-005	9.3000e-004	2.4000e-004	5.0000e-005	2.9000e-004	0.0000	1.5167	1.5167	6.0000e-005	0.0000	1.5180

3.8 Interior Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0477	0.0471	7.0000e-005		3.2200e-003	3.2200e-003		3.1900e-003	3.1900e-003	0.0000	6.5230	6.5230	1.1800e-003	0.0000	6.5477
Total	1.1074	0.0477	0.0471	7.0000e-005		3.2200e-003	3.2200e-003		3.1900e-003	3.1900e-003	0.0000	6.5230	6.5230	1.1800e-003	0.0000	6.5477

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	8.7000e-004	2.9000e-004	3.6000e-003	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2831	0.2831	2.0000e-005	0.0000	0.2836
Total	8.7000e-004	2.9000e-004	3.6000e-003	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2831	0.2831	2.0000e-005	0.0000	0.2836

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0600e-003	0.0633	0.0493	7.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	6.5230	6.5230	1.1800e-003	0.0000	6.5477
Total	1.1043	0.0633	0.0493	7.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	6.5230	6.5230	1.1800e-003	0.0000	6.5477

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	8.7000e-004	2.9000e-004	3.6000e-003	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2831	0.2831	2.0000e-005	0.0000	0.2836
Total	8.7000e-004	2.9000e-004	3.6000e-003	0.0000	2.6000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2831	0.2831	2.0000e-005	0.0000	0.2836

3.9 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5200e-003	0.0258	0.0220	3.0000e-005		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	2.9915	2.9915	9.1000e-004	0.0000	3.0105
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5200e-003	0.0258	0.0220	3.0000e-005		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	2.9915	2.9915	9.1000e-004	0.0000	3.0105

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	4.0000e-005	1.5000e-004	7.4000e-004	0.0000	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0238	0.0238	0.0000	0.0000	0.0238
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	2.0000e-005	3.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252
Total	1.1000e-004	1.7000e-004	1.0400e-003	0.0000	2.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0490	0.0490	0.0000	0.0000	0.0491

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	1.3300e-003	0.0284	0.0239	3.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	2.9914	2.9914	9.1000e-004	0.0000	3.0105
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3300e-003	0.0284	0.0239	3.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	2.9914	2.9914	9.1000e-004	0.0000	3.0105

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	4.0000e-005	1.5000e-004	7.4000e-004	0.0000	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0238	0.0238	0.0000	0.0000	0.0238
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	2.0000e-005	3.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252
Total	1.1000e-004	1.7000e-004	1.0400e-003	0.0000	2.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0490	0.0490	0.0000	0.0000	0.0491

Attachment 2: CalEEMod GHG Modeling Output

Park and Delmas
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	51.52	1000sqft	1.18	54,333.00	0
Quality Restaurant	1.00	1000sqft	0.02	1,000.00	0
Apartments Mid Rise	123.00	Dwelling Unit	3.24	115,456.00	380

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Using PG&E 2013 Certified Rate from Climate Registry
- Land Use - Based on 2016 plan sheet (Title sheet) SJ persons per household = 3.09
- Construction Phase - Based on provided 2016 construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list + added default equipment
- Off-road Equipment - Based on provided construction schedule/equipment list
- Off-road Equipment - Based on provided construction schedule/equipment list
- Trips and VMT - Added demo, cement and asphalt trips. Only on- and near-site travel
- Demolition - Based on provided construction schedule/equipment list
- Grading - Based on provided construction schedule/equipment list + default acres disturbed
- Architectural Coating -
- Vehicle Trips -
- Construction Off-road Equipment Mitigation - Tier 2 mobile, Tier 4 or DPF Level 3 portable and BMPs for fugitive PM2.5
- Off-road Equipment - Based on 2016 provided schedule and equipment list

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	18.00	32.00
tblConstructionPhase	NumDays	230.00	127.00
tblConstructionPhase	NumDays	230.00	116.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	8.00	32.00
tblConstructionPhase	NumDays	18.00	5.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	PhaseEndDate	3/8/2018	10/16/2017
tblConstructionPhase	PhaseEndDate	10/11/2017	9/26/2017
tblConstructionPhase	PhaseEndDate	3/7/2018	1/23/2018
tblConstructionPhase	PhaseEndDate	3/28/2017	3/21/2017
tblConstructionPhase	PhaseEndDate	10/23/2017	1/26/2018
tblConstructionPhase	PhaseEndDate	1/27/2017	2/10/2017
tblConstructionPhase	PhaseEndDate	4/5/2017	4/17/2017
tblConstructionPhase	PhaseStartDate	1/24/2018	9/1/2017
tblConstructionPhase	PhaseStartDate	4/18/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	9/27/2017	8/15/2017
tblConstructionPhase	PhaseStartDate	2/11/2017	2/4/2017
tblConstructionPhase	PhaseStartDate	10/17/2017	1/22/2018
tblConstructionPhase	PhaseStartDate	1/14/2017	1/28/2017
tblConstructionPhase	PhaseStartDate	3/22/2017	4/1/2017
tblGrading	MaterialExported	0.00	22,000.00
tblGrading	MaterialImported	0.00	1,000.00

tblLandUse	LandUseSquareFeet	51,520.00	54,333.00
tblLandUse	LandUseSquareFeet	123,000.00	115,456.00
tblLandUse	Population	352.00	380.00
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripNumber	0.00	1,060.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00

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					
2017	1.3616	2.1871	2.2229	4.9000e-003	0.2345	0.0891	0.3236	0.0773	0.0830	0.1604	0.0000	417.2845	417.2845	0.0424	0.0000	418.1743
2018	0.0177	0.1299	0.1372	2.7000e-004	0.0103	6.7400e-003	0.0170	2.7500e-003	6.2800e-003	9.0300e-003	0.0000	21.7975	21.7975	3.3600e-003	0.0000	21.8681
Total	1.3793	2.3170	2.3601	5.1700e-003	0.2447	0.0958	0.3406	0.0801	0.0893	0.1694	0.0000	439.0820	439.0820	0.0457	0.0000	440.0423

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					
2017	1.2592	1.9911	2.2169	4.9000e-003	0.2345	0.0424	0.2769	0.0773	0.0415	0.1188	0.0000	417.2844	417.2844	0.0424	0.0000	418.1741
2018	9.2000e-003	0.1190	0.1386	2.7000e-004	0.0103	3.1300e-003	0.0134	2.7500e-003	3.1000e-003	5.8600e-003	0.0000	21.7975	21.7975	3.3600e-003	0.0000	21.8681
Total	1.2684	2.1101	2.3556	5.1700e-003	0.2447	0.0456	0.2903	0.0801	0.0446	0.1246	0.0000	439.0818	439.0818	0.0457	0.0000	440.0422

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	8.04	8.93	0.19	0.00	0.00	52.46	14.76	0.00	50.11	26.42	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9010	0.0123	1.0570	1.7000e-004		0.0249	0.0249		0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004	6.9269
Energy	6.5300e-003	0.0564	0.0283	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003	0.0000	226.9494	226.9494	0.0122	3.4500e-003	228.2769
Mobile	0.4626	0.9545	4.4187	9.8700e-003	0.7111	0.0128	0.7238	0.1901	0.0118	0.2019	0.0000	732.5836	732.5836	0.0290	0.0000	733.1922
Waste						0.0000	0.0000		0.0000	0.0000	11.6700	0.0000	11.6700	0.6897	0.0000	26.1531
Water						0.0000	0.0000		0.0000	0.0000	2.6388	12.2119	14.8506	0.2719	6.5700e-003	22.5963
Total	1.3701	1.0232	5.5040	0.0104	0.7111	0.0422	0.7533	0.1901	0.0412	0.2313	16.3283	976.4900	992.8183	1.0080	0.0102	1,017.1454

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
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Category	tons/yr										MT/yr					
	Area	0.9010	0.0123	1.0570	1.7000e-004	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004
Energy	6.5300e-003	0.0564	0.0283	3.6000e-004	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	0.0000	226.9494	226.9494	0.0122	3.4500e-003	228.2769
Mobile	0.4626	0.9545	4.4187	9.8700e-003	0.7111	0.0128	0.7238	0.1901	0.0118	0.2019	0.0000	732.5836	732.5836	0.0290	0.0000	733.1922
Waste						0.0000	0.0000		0.0000	0.0000	11.6700	0.0000	11.6700	0.6897	0.0000	26.1531
Water						0.0000	0.0000		0.0000	0.0000	2.6388	12.2119	14.8506	0.2718	6.5600e-003	22.5921
Total	1.3701	1.0232	5.5040	0.0104	0.7111	0.0422	0.7533	0.1901	0.0412	0.2313	16.3283	976.4900	992.8183	1.0079	0.0102	1,017.1412

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/13/2017	5	10	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/4/2017	3/21/2017	5	32	
4	Trenching	Trenching	4/1/2017	4/17/2017	5	11	
5	Exterior Garage/Podium	Building Construction	4/1/2017	9/26/2017	5	127	
6	Exterior Framing	Building Construction	8/15/2017	1/23/2018	5	116	
7	Interior Construction	Architectural Coating	9/1/2017	10/16/2017	5	32	
8	Paving	Paving	1/22/2018	1/26/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 8

Acres of Paving: 0

Residential Indoor: 233,798; Residential Outdoor: 77,933; Non-Residential Indoor: 83,000; Non-Residential Outdoor: 27,667 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	1	3.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Off-Highway Trucks	1	3.00	400	0.38
Grading	Off-Highway Trucks	3	4.00	400	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	1	2.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Excavators	0	8.00	162	0.38
Grading	Graders	0	8.00	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Excavators	1	2.00	162	0.38
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Skid Steer Loaders	1	2.00	64	0.37

Grading	Rubber Tired Loaders	1	2.00	199	0.36
Trenching	Excavators	1	8.00	162	0.38
Exterior Garage/Podium	Cranes	0	7.00	226	0.29
Exterior Garage/Podium	Forklifts	2	4.00	89	0.20
Exterior Garage/Podium	Generator Sets	0	8.00	84	0.74
Trenching	Skid Steer Loaders	1	8.00	64	0.37
Exterior Garage/Podium	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Exterior Garage/Podium	Welders	0	8.00	46	0.45
Exterior Framing	Cranes	1	6.00	226	0.29
Exterior Framing	Forklifts	2	8.00	89	0.20
Exterior Framing	Generator Sets	0	8.00	84	0.74
Exterior Framing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Exterior Framing	Welders	1	8.00	46	0.45
Exterior Garage/Podium	Pumps	1	1.00	84	0.74
Interior Construction	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	6.00	130	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Exterior Garage/Podium	Air Compressors	1	1.00	78	0.48
Interior Construction	Aerial Lifts	1	8.00	62	0.31

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
Demolition	2	5.00	0.00	19.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	11	28.00	0.00	2,875.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Exterior Garage/Podium	4	112.00	22.00	1,060.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Exterior Framing	4	112.00	22.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Interior Construction	2	22.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	10.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										M1/yr					
Fugitive Dust					2.0700e-003	0.0000	2.0700e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3100e-003	0.0260	0.0152	3.0000e-005		1.0600e-003	1.0600e-003		9.7000e-004	9.7000e-004	0.0000	3.2072	3.2072	9.8000e-004	0.0000	3.2279

Total	2.3100e-003	0.0260	0.0152	3.0000e-005	2.0700e-003	1.0600e-003	3.1300e-003	3.1000e-004	9.7000e-004	1.2800e-003	0.0000	3.2072	3.2072	9.8000e-004	0.0000	3.2279
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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	1.9000e-004	2.5400e-003	2.0700e-003	1.0000e-005	1.6000e-004	3.0000e-005	1.9000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.6398	0.6398	0.0000	0.0000	0.6399
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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	2.7000e-004	2.6600e-003	3.2100e-003	1.0000e-005	3.9000e-004	3.0000e-005	4.2000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	0.8327	0.8327	1.0000e-005	0.0000	0.8330

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0700e-003	0.0000	2.0700e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	0.0275	0.0206	3.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	3.2072	3.2072	9.8000e-004	0.0000	3.2279
Total	9.9000e-004	0.0275	0.0206	3.0000e-005	2.0700e-003	7.0000e-004	2.7700e-003	3.1000e-004	7.0000e-004	1.0100e-003	0.0000	3.2072	3.2072	9.8000e-004	0.0000	3.2279

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	1.9000e-004	2.5400e-003	2.0700e-003	1.0000e-005	1.6000e-004	3.0000e-005	1.9000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.6398	0.6398	0.0000	0.0000	0.6399
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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	2.7000e-004	2.6600e-003	3.2100e-003	1.0000e-005	3.9000e-004	3.0000e-005	4.2000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	0.8327	0.8327	1.0000e-005	0.0000	0.8330

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5400e-003	0.0812	0.0617	6.0000e-005		4.2100e-003	4.2100e-003		3.8700e-003	3.8700e-003	0.0000	5.5714	5.5714	1.7100e-003	0.0000	5.6072

Total	7.5400e-003	0.0812	0.0617	6.0000e-005	0.0301	4.2100e-003	0.0343	0.0166	3.8700e-003	0.0204	0.0000	5.5714	5.5714	1.7100e-003	0.0000	5.6072
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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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931

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					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9800e-003	0.0524	0.0352	6.0000e-005		1.5100e-003	1.5100e-003		1.4900e-003	1.4900e-003	0.0000	5.5714	5.5714	1.7100e-003	0.0000	5.6072
Total	1.9800e-003	0.0524	0.0352	6.0000e-005	0.0301	1.5100e-003	0.0316	0.0166	1.4900e-003	0.0180	0.0000	5.5714	5.5714	1.7100e-003	0.0000	5.6072

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	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931
Total	8.0000e-005	1.2000e-004	1.1400e-003	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1931

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0296	0.0000	0.0296	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4605	0.2673	5.3000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	48.8656	48.8656	0.0150	0.0000	49.1801

Total	0.0410	0.4605	0.2673	5.3000e-004	0.0296	0.0203	0.0500	0.0139	0.0187	0.0326	0.0000	48.8656	48.8656	0.0150	0.0000	49.1801
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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	0.0280	0.3844	0.3130	1.0800e-003	0.0243	4.9300e-003	0.0292	6.6700e-003	4.5300e-003	0.0112	0.0000	96.8066	96.8066	7.0000e-004	0.0000	96.8213
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	2.1000e-003	0.0204	5.0000e-005	4.0800e-003	3.0000e-005	4.1100e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.4566	3.4566	1.8000e-004	0.0000	3.4603
Total	0.0295	0.3865	0.3334	1.1300e-003	0.0284	4.9600e-003	0.0333	7.7500e-003	4.5600e-003	0.0123	0.0000	100.2632	100.2632	8.8000e-004	0.0000	100.2816

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					0.0296	0.0000	0.0296	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.4273	0.3002	5.3000e-004		0.0116	0.0116		0.0115	0.0115	0.0000	48.8656	48.8656	0.0150	0.0000	49.1800
Total	0.0155	0.4273	0.3002	5.3000e-004	0.0296	0.0116	0.0412	0.0139	0.0115	0.0254	0.0000	48.8656	48.8656	0.0150	0.0000	49.1800

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	0.0280	0.3844	0.3130	1.0800e-003	0.0243	4.9300e-003	0.0292	6.6700e-003	4.5300e-003	0.0112	0.0000	96.8066	96.8066	7.0000e-004	0.0000	96.8213
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	2.1000e-003	0.0204	5.0000e-005	4.0800e-003	3.0000e-005	4.1100e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.4566	3.4566	1.8000e-004	0.0000	3.4603
Total	0.0295	0.3865	0.3334	1.1300e-003	0.0284	4.9600e-003	0.0333	7.7500e-003	4.5600e-003	0.0123	0.0000	100.2632	100.2632	8.8000e-004	0.0000	100.2816

3.5 Trenching - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5800e-003	0.0296	0.0264	4.0000e-005		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	3.7391	3.7391	1.1500e-003	0.0000	3.7631
Total	2.5800e-003	0.0296	0.0264	4.0000e-005		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	3.7391	3.7391	1.1500e-003	0.0000	3.7631

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	9.0000e-005	1.3000e-004	1.2500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2122	0.2122	1.0000e-005	0.0000	0.2124
Total	9.0000e-005	1.3000e-004	1.2500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2122	0.2122	1.0000e-005	0.0000	0.2124

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	1.6600e-003	0.0358	0.0306	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.7391	3.7391	1.1500e-003	0.0000	3.7631
Total	1.6600e-003	0.0358	0.0306	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.7391	3.7391	1.1500e-003	0.0000	3.7631

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	9.0000e-005	1.3000e-004	1.2500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2122	0.2122	1.0000e-005	0.0000	0.2124
Total	9.0000e-005	1.3000e-004	1.2500e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2122	0.2122	1.0000e-005	0.0000	0.2124

3.6 Exterior Garage/Podium - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0217	0.1751	0.1295	1.8000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618
Total	0.0217	0.1751	0.1295	1.8000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618

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	0.0103	0.1417	0.1154	4.000e-004	8.9500e-003	1.8200e-003	0.0108	2.4600e-003	1.6700e-003	4.1300e-003	0.0000	35.6922	35.6922	2.6000e-004	0.0000	35.6976
Vendor	0.0145	0.1249	0.1740	3.3000e-004	9.0200e-003	1.8100e-003	0.0108	2.5900e-003	1.6600e-003	4.2500e-003	0.0000	29.6926	29.6926	2.3000e-004	0.0000	29.6974
Worker	0.0237	0.0334	0.3232	7.5000e-004	0.0648	4.9000e-004	0.0653	0.0172	4.6000e-004	0.0177	0.0000	54.8738	54.8738	2.7900e-003	0.0000	54.9323
Total	0.0486	0.3000	0.6126	1.4800e-003	0.0827	4.1200e-003	0.0869	0.0223	3.7900e-003	0.0261	0.0000	120.2586	120.2586	3.2800e-003	0.0000	120.3273

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	7.7900e-003	0.1609	0.1254	1.8000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618
Total	7.7900e-003	0.1609	0.1254	1.8000e-004		5.6500e-003	5.6500e-003		5.6500e-003	5.6500e-003	0.0000	16.1898	16.1898	3.4300e-003	0.0000	16.2618

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	0.0103	0.1417	0.1154	4.0000e-004	8.9500e-003	1.8200e-003	0.0108	2.4600e-003	1.6700e-003	4.1300e-003	0.0000	35.6922	35.6922	2.6000e-004	0.0000	35.6976
Vendor	0.0145	0.1249	0.1740	3.3000e-004	9.0200e-003	1.8100e-003	0.0108	2.5900e-003	1.6600e-003	4.2500e-003	0.0000	29.6926	29.6926	2.3000e-004	0.0000	29.6974
Worker	0.0237	0.0334	0.3232	7.5000e-004	0.0648	4.9000e-004	0.0653	0.0172	4.6000e-004	0.0177	0.0000	54.8738	54.8738	2.7900e-003	0.0000	54.9323
Total	0.0486	0.3000	0.6126	1.4800e-003	0.0827	4.1200e-003	0.0869	0.0223	3.7900e-003	0.0261	0.0000	120.2586	120.2586	3.2800e-003	0.0000	120.3273

3.7 Exterior Framing - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0697	0.5526	0.3207	4.9000e-004		0.0340	0.0340		0.0318	0.0318	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490
Total	0.0697	0.5526	0.3207	4.9000e-004		0.0340	0.0340		0.0318	0.0318	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490

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	0.0113	0.0974	0.1357	2.6000e-004	7.0300e-003	1.4100e-003	8.4400e-003	2.0200e-003	1.2900e-003	3.3100e-003	0.0000	23.1462	23.1462	1.8000e-004	0.0000	23.1500
Worker	0.0185	0.0260	0.2519	5.8000e-004	0.0505	3.9000e-004	0.0509	0.0134	3.6000e-004	0.0138	0.0000	42.7756	42.7756	2.1700e-003	0.0000	42.8212
Total	0.0298	0.1234	0.3876	8.4000e-004	0.0575	1.8000e-003	0.0593	0.0154	1.6500e-003	0.0171	0.0000	65.9218	65.9218	2.3500e-003	0.0000	65.9712

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	0.0175	0.4094	0.3007	4.9000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490
Total	0.0175	0.4094	0.3007	4.9000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	42.7913	42.7913	0.0123	0.0000	43.0490

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	0.0113	0.0974	0.1357	2.6000e-004	7.0300e-003	1.4100e-003	8.4400e-003	2.0200e-003	1.2900e-003	3.3100e-003	0.0000	23.1462	23.1462	1.8000e-004	0.0000	23.1500
Worker	0.0185	0.0260	0.2519	5.8000e-004	0.0505	3.9000e-004	0.0509	0.0134	3.6000e-004	0.0138	0.0000	42.7756	42.7756	2.1700e-003	0.0000	42.8212
Total	0.0298	0.1234	0.3876	8.4000e-004	0.0575	1.8000e-003	0.0593	0.0154	1.6500e-003	0.0171	0.0000	65.9218	65.9218	2.3500e-003	0.0000	65.9712

3.7 Exterior Framing - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.0836	0.0521	8.0000e-005		4.9400e-003	4.9400e-003		4.6200e-003	4.6200e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001
Total	0.0103	0.0836	0.0521	8.0000e-005		4.9400e-003	4.9400e-003		4.6200e-003	4.6200e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001

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	1.7600e-003	0.0151	0.0219	4.0000e-005	1.2100e-003	2.2000e-004	1.4300e-003	3.5000e-004	2.1000e-004	5.5000e-004	0.0000	3.9051	3.9051	3.0000e-005	0.0000	3.9058
Worker	2.8500e-003	4.0200e-003	0.0388	1.0000e-004	8.6700e-003	6.0000e-005	8.7300e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	7.0718	7.0718	3.4000e-004	0.0000	7.0790
Total	4.6100e-003	0.0192	0.0607	1.4000e-004	9.8800e-003	2.8000e-004	0.0102	2.6600e-003	2.7000e-004	2.9100e-003	0.0000	10.9770	10.9770	3.7000e-004	0.0000	10.9848

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	3.0100e-003	0.0703	0.0516	8.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001
Total	3.0100e-003	0.0703	0.0516	8.0000e-005		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	7.2567	7.2567	2.0700e-003	0.0000	7.3001

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	1.7600e-003	0.0151	0.0219	4.0000e-005	1.2100e-003	2.2000e-004	1.4300e-003	3.5000e-004	2.1000e-004	5.5000e-004	0.0000	3.9051	3.9051	3.0000e-005	0.0000	3.9058
Worker	2.8500e-003	4.0200e-003	0.0388	1.0000e-004	8.6700e-003	6.0000e-005	8.7300e-003	2.3100e-003	6.0000e-005	2.3600e-003	0.0000	7.0718	7.0718	3.4000e-004	0.0000	7.0790
Total	4.6100e-003	0.0192	0.0607	1.4000e-004	9.8800e-003	2.8000e-004	0.0102	2.6600e-003	2.7000e-004	2.9100e-003	0.0000	10.9770	10.9770	3.7000e-004	0.0000	10.9848

3.8 Interior Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0477	0.0471	7.0000e-005		3.2200e-003	3.2200e-003		3.1900e-003	3.1900e-003	0.0000	6.5230	6.5230	1.1800e-003	0.0000	6.5477

Total	2.5200e-003	0.0258	0.0220	3.0000e-005		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	2.9915	2.9915	9.1000e-004	0.0000	3.0105
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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	9.0000e-005	1.2200e-003	1.0500e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.3309	0.3309	0.0000	0.0000	0.3310
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.4000e-004	1.3200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2414	0.2414	1.0000e-005	0.0000	0.2417
Total	1.9000e-004	1.3600e-003	2.3700e-003	0.0000	3.8000e-004	2.0000e-005	4.0000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	0.5724	0.5724	1.0000e-005	0.0000	0.5727

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	1.3900e-003	0.0282	0.0239	3.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	2.9914	2.9914	9.1000e-004	0.0000	3.0105
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3900e-003	0.0282	0.0239	3.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	2.9914	2.9914	9.1000e-004	0.0000	3.0105

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	9.0000e-005	1.2200e-003	1.0500e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.3309	0.3309	0.0000	0.0000	0.3310
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.4000e-004	1.3200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2414	0.2414	1.0000e-005	0.0000	0.2417
Total	1.9000e-004	1.3600e-003	2.3700e-003	0.0000	3.8000e-004	2.0000e-005	4.0000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	0.5724	0.5724	1.0000e-005	0.0000	0.5727

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Mitigated	0.4626	0.9545	4.4187	9.8700e-003	0.7111	0.0128	0.7238	0.1901	0.0118	0.2019	0.0000	732.5836	732.5836	0.0290	0.0000	733.1922
Unmitigated	0.4626	0.9545	4.4187	9.8700e-003	0.7111	0.0128	0.7238	0.1901	0.0118	0.2019	0.0000	732.5836	732.5836	0.0290	0.0000	733.1922

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	810.57	880.68	746.61	1,811,450	1,811,450
Enclosed Parking with Elevator	0.00	0.00	0.00		
Quality Restaurant	89.95	94.36	72.16	104,428	104,428
Total	900.52	975.04	818.77	1,915,879	1,915,879

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551461	0.058468	0.185554	0.123211	0.029507	0.004440	0.012712	0.023230	0.001775	0.001270	0.006089	0.000516	0.001766

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	162.3399	162.3399	0.0110	2.2700e-003	163.2742
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	162.3399	162.3399	0.0110	2.2700e-003	163.2742
NaturalGas Mitigated	6.5300e-003	0.0564	0.0283	3.6000e-004	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	0.0000	64.6096	64.6096	1.2400e-003	1.1800e-003	65.0028
NaturalGas Unmitigated	6.5300e-003	0.0564	0.0283	3.6000e-004	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	4.5100e-003	0.0000	64.6096	64.6096	1.2400e-003	1.1800e-003	65.0028

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	999697	5.3900e-003	0.0461	0.0196	2.9000e-004	3.7200e-003	3.7200e-003	3.7200e-003	3.7200e-003	3.7200e-003	3.7200e-003	0.0000	53.3477	53.3477	1.0200e-003	9.8000e-004	53.6723
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	0.0000	0.0000
Quality Restaurant	211040	1.1400e-003	0.0104	8.6900e-003	6.0000e-005	7.9000e-004	7.9000e-004	7.9000e-004	7.9000e-004	7.9000e-004	7.9000e-004	0.0000	11.2619	11.2619	2.2000e-004	2.1000e-004	11.3304

Mitigated	0.9010	0.0123	1.0570	1.7000e-004		0.0249	0.0249		0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004	6.9269
Unmitigated	0.9010	0.0123	1.0570	1.7000e-004		0.0249	0.0249		0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004	6.9269

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	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0954	1.6300e-003	0.1368	1.2000e-004		0.0199	0.0199		0.0199	0.0199	2.0196	3.2523	5.2719	3.7700e-003	1.7000e-004	5.4031
Landscaping	0.0284	0.0107	0.9202	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	1.4928	1.4928	1.4800e-003	0.0000	1.5239
Total	0.9010	0.0123	1.0570	1.7000e-004		0.0249	0.0249		0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004	6.9269

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	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6670					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0954	1.6300e-003	0.1368	1.2000e-004		0.0199	0.0199		0.0199	0.0199	2.0196	3.2523	5.2719	3.7700e-003	1.7000e-004	5.4031
Landscaping	0.0284	0.0107	0.9202	5.0000e-005		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	1.4928	1.4928	1.4800e-003	0.0000	1.5239
Total	0.9010	0.0123	1.0570	1.7000e-004		0.0249	0.0249		0.0249	0.0249	2.0196	4.7451	6.7647	5.2500e-003	1.7000e-004	6.9269

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.8506	0.2718	6.5600e-003	22.5921
Unmitigated	14.8506	0.2719	6.5700e-003	22.5963

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.01395 / 5.05227	14.4215	0.2619	6.3300e-003	21.8852
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.303534 / 0.0193745	0.4291	9.9100e-003	2.4000e-004	0.7111
Total		14.8506	0.2719	6.5700e-003	22.5963

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.01395 / 5.05227	14.4215	0.2619	6.3200e-003	21.8811
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.303534 / 0.0193745	0.4291	9.9100e-003	2.4000e-004	0.7110
Total		14.8506	0.2718	6.5600e-003	22.5921

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.6700	0.6897	0.0000	26.1531
Unmitigated	11.6700	0.6897	0.0000	26.1531

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	56.58	11.4852	0.6788	0.0000	25.7391
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.91	0.1847	0.0109	0.0000	0.4140
Total		11.6700	0.6897	0.0000	26.1531

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	56.58	11.4852	0.6788	0.0000	25.7391
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.91	0.1847	0.0109	0.0000	0.4140
Total		11.6700	0.6897	0.0000	26.1531

9.0 Operational Offroad

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